Tobacco (Dollar Plan), Tobacco (Guarantee Plan), Canning and Processing Tomato, Almond, Texas Citrus Tree, Prevented Planting, Fresh Tomato, ELS Cotton, Fresh Market Sweet Corn, Safflower, and Cranberry Crop Insurance Regulations (respectively)).

Authority: Secs. 7 U.S.C. 1506, 1516.

Done in Washington, DC on November 25, 1991.

James E. Cason,

Manager, Federal Crop Insurance Corporation.

[FR Doc. 91-29700 Filed 12-12-91; 8:45 am]

BILLING CODE 3410-08-M

Agricultural Marketing Service

7 CFR Part 920

[Docket No. FV-91-284]

Kiwifruit Grown in California; Final Rule Revising Pack and Inspection Requirements

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Final rule.

SUMMARY: This final rule eliminates the "well-filled" requirement for all containers of California kiwifruit except trays. It also extends the time period for which inspection certificates remain valid from December 1 to December 15 of each year. These actions are intended to result in reduced packing costs and to reflect current marketing practices.

EFFECTIVE DATE: December 13, 1991.

FOR FURTHER INFORMATION CONTACT: Caroline C. Thorpe, Marketing Order Administration Branch, Fruit and Vegetable Division, AMS, USDA, P.O. Box 96456, room 2525-S, Washington, DC 20090-6456, telephone 202-720-3610.

SUPPLEMENTARY INFORMATION: This rule is effective under Marketing Agreement and Order No. 920 (7 CFR part 920), regulating the handling of kiwifruit grown in California. The marketing agreement and order are authorized by the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674), hereinafter referred to as the Act.

This rule has been reviewed by the Department of Agriculture in accordance with Departmental Regulation 1512-1 and the criteria contained in Executive Order 12291 and has been determined to be a "non-major" rule.

Pursuant to requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service (AMS) has considered the economic impact of this action on small entities.

The purpose of the RFA is to fit regulatory actions to the scale of business subject to such actions in order that small businesses will not be unduly or disporportionately burdened. Marketing orders issued pursuant to the Act, and rules issued thereunder, are unique in that they are brought about through group action of essentially small entities acting on their own behalf. Thus, both statutes have small entity orientation and compatibility.

There are approximately 100 handlers of California kiwifruit subject to regulation under the marketing order, and aproximately 850 producers in the production area. Small agricultural producers have been defined by the Small Business Administration (13 CFR 121.601) as those having annual receipts of less than $500,000, and small agricultural service firms are defined as those whose annual receipts are less than $3,500,000. The majority of the producers and about 30 to 40 percent of the handlers of California kiwifruit may be classified as small entities.

The 1990 fresh utilized production of California kiwifruit totaled 9.7 million trays and tray equivalents. This was a 5 percent decrease in production from the previous year and 1 million trays less than what was projected for the season. For the past 10 years, kiwifruit production has increased in California and is expected to increase slightly this season to a toal of about 10 million trays. Most of the crop is shipped to fresh markets with only a small volume utilized by processors. It is estimated that about 92 percent of the 1991 crop will be consumed in Canada and the United States. Most of the remaining 8 percent is expected to be exported to Hong Kong, Korea, and Mexico.

Under the terms of the marketing order, fresh market shipments of kiwifruit are required to be inspected and are subject to grade, size, maturity, pack, and container requirements. The handling requirements for fresh California Kiwifruit are specified in 7 CFR 920.302 (50 FR 36568, September 8, 1985, as amended as 54 FR 41436, October 10, 1989, 55 FR 19717, May 16, 1990, and 55 FR 42179, October 10, 1990). Current requirements include specifications that such shipments be at least Size 49 and contain a minimum of 6.5 percent soluble solids. Also included in the handling regulations are a minimum grade requirement and a number of pack and container rquirements, including minimum net weight requirements for kiwifruit packed in trays, and uniform size requirements for fruit packed in volume-filled containers.

At a meeting held on April 26, 1991, the Kiwifruit Administrative Committee (KAC), the agency responsible for local administration of the marketing order, recommended changes in the existing size, pack, and inspection requirements.

Upon the basis of the KAC's recommendation, this rule eliminates the "well filled" requirement for volume-filled containers. This revision also increases the time period for which inspection certificates remain effective from December 1 to December 15 of each marketing season.

Currently, all containers of kiwifruit must be "well-filled." The KAC unanimously recommended that this requirement apply only to kiwifruit packed in trays. Trays included containers with compartments, cardboard fillers, or molded trays. Volume-filled containers include bags and bulk bins. The "well filled" requirement was issued in 1985 and applies to all containers. However, it was intended to apply primarily to trays. Use of volume-filled containers has increased from 14 percent of shipments during the 1985-86 seasons to about 50 percent of shipments in 1989-90. Applications of the "well filled" requirement to volume-filled containers means that there should be practically no movement of the fruit within the container. This is not consistent with current packing practices and the KAC therefore recommended that the "well filled" requirement be eliminated for volume-filled containers.

Most kiwifruit sold in volume-filled containers, particularly bulk bins, is sold by weight and not volume. Therefore, the "well filled" requirement for volume-filled containers does not necessarily serve the needs of handlers or consumers. Also, if certain volume-filled containers (e.g., bulk bins) are packed so that there is practically no movement of the fruit within the container, the weight of the fruit on top may crush the fruit on the bottom. Eliminating the "Well filled" requirement for volume-filled containers will therefore be consistent with current marketing practices and is expected to result in improved quality of California kiwifruit.

The KAC also voted 10 to 1 to recommend amending the size designations established for kiwifruit packed in volume-filled containers, as shown in subparagraph (a)(4)(iii) of 920.302. Such amendment was proposed in the **Federal Register** publication of September 26, 1991 (56 FR 48764). These size designations are defined by numerical counts, which establish

maximum numbers of fruit per 8-pound sample for each of the 9 established sizes. The recommendation permits individual samples to be up to 4 ounces below the specified 8–pound sample weight as long as the average weight of all samples from a given lot is at least 8 pounds.

Each size designation has a maximum number of fruit permitted per 8-pound sample. Currently during inspection, the inspector takes from a container the maximum number of fruit permitted for a particular size. For example, Size 30 fruit is defined as having a maximum of 32 pieces of fruit in an 8-pound sample. The inspector takes 32 pieces of fruit as a sample, and weighs the sample. If the sample weighs 8 pounds or more, it is considered to meet the pack requirements; any sample below that weight is considered to fail those requirements. The proposed revision would permit a weight variance of up to 4 ounces below the specified 8 pounds for individual samples. However, the average weight of all samples would have to be at least 8 pounds for the lot to pass.

The effect of this revision would be minimal and would provide needed flexibility in the current pack requirements, and reduce additional repacking costs due to slight variances of weight that occur during packing. This revision would also have the effect of relaxing size requirements. The proposed revision of size designations is not being published as a final rule in this document because the procedures required to make corresponding revisions to the import regulation pursuant to section 8e of the Act have not yet been completed.

Kiwifruit grown in California is typically harvested in late September or October. The fruit is packed shortly after harvest and placed into storage until shipment. The shipping season generally extends throughout the year.

About 55 percent of the harvested fruit is inspected as it is being packed, prior to storage. While the majority of fruit is inspected prior to storage, some handlers have their fruit inspected after storage just prior to shipment.

When kiwifruit is stored, a black sooty mold sometimes appears on the fruit's surface. This mold, caused by fruit juice on the surface of the fruit, usually begins to show after the kiwifruit has been in storage for over a month. In order to control this problem, a time limit on the validity of inspection certificates was established. The time limit initially established in 1985 was until January 15, or 21 days from the date of inspection, whichever was later.

In 1985, it appeared that kiwifruit harvested in October maintained its quality through the following mid-January. However, during the 1988–89 season, problems with black sooty mold resulted in the KAC reevaluating this position and the date was changed to December 1, to reduce the likelihood of moldy fruit entering commercial channels.

The KAC has now recommended that the current December 1 certificate life date be changed to December 15. The KAC believes that the December 1 expiration date of the inspection certificate requires shippers to have their fruit inspected a second time too soon after the initial inspection. Since most fruit is harvested during October through December, much of the fruit has not been in storage long enough to develop black sooty mold. For example, a handler may pack and have fruit inspected on November 10. If an inspection certificate remains valid only until December 1, the handler would have to have the fruit inspected 21 days later if it is to be shipped. The mold usually does not appear on fruit which is stored for less than one month.

The December 1 date provides that kiwifruit could be inspected up to 2 months before shipment, as kiwifruit harvest and packing typically begin in late September or October. However, during the last three seasons an estimated 70 to 80 percent of the kiwifruit was shipped after December 15. The KAC therefore believes that a new date of December 15 will sufficiently control the mold problem for most of the kiwifruit that is shipped.

This revision changes the current December 1 certificate validity date. It provides that a certificate remains valid until December 15 or 21 days from the date of inspection, whichever is later. Thus, the current 21-day limitation will remain in effect with respect to certificate validity. This means that kiwifruit inspected and packed less than 21 days prior to December 15 will not have to be reinspected until 21 days after the inspection date.

Although this change increases the time period during which inspection certificates are valid, it should sufficiently prevent the occurrence of black sooty mold on kiwifruit shipped to fresh markets. It also reduces inspection costs by adding 2 weeks to the inspection certificate validity.

Based on the above, the Administrator of the AMS has determined that this action will not have a significant economic impact on a substantial number of small entities.

A proposed rule was published in the September 26, 1991, **Federal Register** (56 FR 48762) and afforded interested persons until October 28, 1991, to submit written comments. No comments were received.

After consideration of all relevant matter presented, including the information and recommendations submitted by the KAC and other available information, it is hereby found that this rule, as hereinafter set forth, will tend to effectuate the declared policy of the Act.

It is further found that good cause exists for not postponing the effective date of this rule untill 30 days after publication in the **Federal Register** (5 U.S.C. 553) because the shipping season has started and therefore this rule should be implemented as soon as possible. Further, handlers are aware of this rule, which was recommended by the KAC at a public meeting.

List of Subjects in 7 CFR Part 920

Kiwifruit, Marketing agreements.

For the reasons set forth in the preamble, 7 CFR part 920 is hereby amended as follows:

PART 920—KIWIFRUIT GROWN IN CALIFORNIA

1. The authority citation for 7 CFR part 920 continues to read as follows:

Authority: Secs. 1–19, 48 Stat 31, as amended; 7 U.S.C. 601–674.

2. Section 920.155 is revised to read as follows:

Note: This section will appear in the Code of Federal Regulations.

§ 920.155 Inspection requirement.

Certification of any kiwifruit which is inspection and certified as meeting grade, size, quality, or maturity requirements in effect pursuant to § 920.52 or § 920.53 during each fiscal year shall be valid until December 15 of such year or 21 days from the date of inspection, whichever is later.

§ 920.302 [Amended]

3. Section 920.302 is amended by removing paragraph (a)(4)(i), redesignating paragraphs (a)(4)(ii), (a)(4)(iii), and (a)(4)(iv) as (a)(4)(i), (a)(4)(ii), and (a)(4)(iii), respectively, and removing the words "¼-pound or" from the last sentence of newly desiganted paragraph (a)(4)(i).

Dated: December 6, 1991.

Robert C. Keeney,

Deputy Director, Fruit and Vegetable Division.

[FR Doc. 91–29746 Filed 12–12–91; 8:45 am]

BILLING CODE 3410–02–M

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 2, 50, 54, and 140

RIN 3150-AD04

Nuclear Power Plant License Renewal

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is issuing a final rule that establishes the requirements that an applicant for renewal of a nuclear power plant operating license must meet, the information that must be submitted to the NRC for review so that the agency can determine whether those requirements have in fact been met, and the application procedures. This rule is necessary to provide the regulatory requirements for extending nuclear power plant operating licenses beyond 40 years.

EFFECTIVE DATE: January 13, 1992.

FOR FURTHER INFORMATION CONTACT: George Sege, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-3917; or Francis Akstulewicz, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 492-1136.

SUPPLEMENTARY INFORMATION:

I. Introduction

The Atomic Energy Act of 1954 (AEA) limits the duration of most operating licenses for nuclear power plants to a maximum of 40 years but permits their renewal. The Commission's regulations at 10 CFR 50.51 implement this authority by permitting renewal. However, § 50.51 provides no standards for procedures for renewal applications. The nuclear utility industry has expressed considerable interest in operating existing nuclear power plants beyond their initial term of operation. The industry has undertaken several initiatives in support of plant life extension. A Steering Committee on Nuclear Plant Life Extension (NUPLEX) has been formed under the direction of the Nuclear Management and Resources Council (NUMARC). The Electric Power Research Institute (EPRI), in cooperation with the U.S. Department of Energy (DOE), and two utilities have sponsored research on life extension, including pilot studies on two nuclear plants, Surry–1 and Monticello. This has culminated in DOE funding of two lead applications for renewal of the operating licenses for the Yankee Rowe and Monticello Facilities.

The nuclear industry has urged the NRC to develop standards and procedures for license renewal so that the utilities would know what will be required to obtain a renewed operating license. The industry states that a license renewal rule is needed now because a significant number of plants will be making decisions in the near future as to whether to seek license renewal. For the oldest nuclear power plants, the expiration dates of their original operating licenses are approaching. Utilities contend that they will require 10 to 15 years to plan and build replacement power plants if the operating licenses for existing nuclear power plants are not renewed. They also contend that the NRC's technical requirements for license renewal must be established before utilities can reasonably determine whether renewal of their existing operating licenses is economically justified. (For more information on the expiration dates of facility operating licenses, see appendix A to the regulatory analysis for license renewal, NUREG–1362.) To ensure a reasoned process for considering license renewal for those who may pursue it, the NRC is establishing the procedures, criteria, and standards governing the requirements for renewal of nuclear power plant operating licenses.

II. Background

The NRC's research program on the degradation of nuclear power plant systems, structures, and components (SSCs) due to aging began in the early 1980s. In 1982, the NRC staff, recognizing the potential impact of plant aging phenomena on the continued safe operation of nuclear power plants, convened a "Workshop on Plant Aging" in Bethesda, Maryland. The purpose of the workshop was to focus attention on how to best proceed to identify and resolve the various technical issues related to plant aging. In 1985, the Division of Engineering of the Office of Nuclear Regulatory Research issued the first comprehensive program plan (NUREG–1144) for Nuclear Plant Aging Research (NPAR). By 1986, the evaluation of age-related degradation in safety-related SSCs became a more important priority with the recognition that utilities were interested in extending the life of their existing power plants beyond the term of their original operating licenses. In response to the NPAR program plan, the NRC staff established a Technical Integration Review Group for the Aging and Life Extension (TIRGALEX). The objectives of TIRGALEX were to clearly define the technical, safety, and regulatory policy issues associated with plant aging and life extension and to develop a plan for resolving the issues in a timely, well-integrated manner. In May 1987, the NRC issued the TIRGALEX report, "Plan to Accomplish Technical Integration for Plant Aging/Life Extension." It identified a broad spectrum of technical, safety, and regulatory policy issues. These issues included identification of SSCs that are susceptible to aging and could adversely affect safety; degradation processes; testing, surveillance, and maintenance requirements; and criteria for evaluating residual life. TIRGALEX concluded that many aging phenomena are readily managed and do not pose major technical issues that would preclude life extension, provided that necessary compensatory measures such as maintenance, surveillance, repair, and replacement are effectively implemented during the extended period of operation.

Simultaneously, a request for comments on the establishment of a policy statement on life extension was published in the **Federal Register** (51 FR

40334; November 6, 1986). Comments were requested on seven major policy, technical, and procedural issues (21 separate questions). Two policy areas focused on the timing of regulatory action on life extension, including the need for a policy statement, and timing of resolution of policy, technical, and procedural issues. Other issues addressed included (1) the earliest and latest dates for filing a life extension application and the potential term of such an extension; (2) an appropriate licensing basis, including the need for and role of a probabilistic risk assessment (PRA); (3) the nature of aging degradation, its identification and mitigation, and the need for research and changes to industry codes and standards; and (4) the need for procedural changes in the Commission's regulations for handling life extension requests. A total of 58 written comments were received from the electric utility industry, public interest groups, private citizens, independent consultants, and government agencies. These comments were reviewed and a summary provided in SECY–87–179, "Status of Staff Activities to Develop a License Renewal Policy, Regulations and Licensing Guidance and to Report on Public Comments" (July 21, 1987).

Based on these comments, the staff began to specifically identify and resolve the wide variety of policy and technical issues relevant to life extension. In August 1988, the staff published an Advance Notice of Proposed Rulemaking (ANPR) in the **Federal Register** (53 FR 32919; August 29, 1988) in which the Commission announced its intention to bypass a policy statement and go directly to preparing a proposed rule on license renewal. The ANPR also announced the availability of NUREG–1317, "Regulatory Options for Nuclear Plant License Renewal," and requested comments on the issues discussed in the NUREG report. First, three alternative licensing bases for assessing the adequacy of a license renewal application were presented and discussed: (1) The existing licensing basis for a facility, (2) supplementation of the existing licensing basis with reviews in safety significant areas, or (3) compliance with new-plant standards at the time the application is submitted. Commenters were asked to identify whether any other major regulatory options for license renewal should be considered and whether verification of the existing licensing basis at each plant should be required for license renewal. Second, two alternatives for handling uncertainties in age-related degradation were described and discussed: (1) Emphasize maintenance, inspection, and reliability assurance, or (2) emphasize defense-in-depth. The relative merit of the two alternatives was the second subject for comment. Third, the advisability of preparing a generic environmental impact statement (GEIS) and the question of whether part 51 should be amended to permit the NRC the option of preparing an environmental assessment (EA) instead of an environmental impact statement were discussed. Finally, 12 procedural and policy issues were discussed. Comments were invited on the environmental, procedural, and policy issues.

Fifty-three written comments were received for nuclear industry groups and individual utilities, public interest groups, and Federal State agencies in response to the ANPR and NUREG–1317. An overview and summary analysis of the comments are contained in NUREG/CR–5332, "Summary and Analysis of Public Comments on NUREG–1317: Regulatory Options for Nuclear Plant License Renewal" (March 1989).

Also in 1988, the NRC, in cooperation with the American Nuclear Society (ANS), the American Society of Civil Engineers (ASCE), the American Society of Mechanical Engineers (ASME), and the Institute of Electrical and Electronic Engineers (IEEE), sponsored an International Nuclear Power Plant Aging Symposium. The symposium, which was held in Bethesda, Maryland, from August 30 through September 1, 1988, was attended by more than 550 internationally prominent nuclear scientists and engineers from 16 countries. The symposium focused of the potential safety issues arising from progressive aging of nuclear power plants. These issues included aging of insulating materials, degradation of pumps and valves, reliability of safety system components, radiation and thermal embrittlement of metals, and erosion-corrosion of fluid-mechanical systems. The symposium discussion addressed topics in the staff's report NUREG–1317, which had been published immediately preceding the symposium. The proceedings of the symposium were published as NUREG/CP–0100 in March 1989.

The NRC staff's views on specific license renewal issues, as evolved in early 1989, were presented to the public in an NRC panel discussion and question and answer session at the NRC's Regulatory Information Conference, held on April 18, 19, and 20, 1989. Among the issues discussed were the nature of a renewed license (renewed license versus amendment of existing license), the need for a PRA, integration with the Individual Plant Examination (IPE) process, and compliance with the National Environmental Policy Act (NEPA).

On October 13, 1989 (54 FR 41980), the Commission announced that a workshop would be held on November 13 and 14, 1989, to focus on specific technical issues, including identification of the significant technical issues bearing on safety, the nature and content of standards for issuance of a renewed license, and the appropriate role and scope of deterministic and probabilistic risk assessments. In addition, the schedule for rulemaking and alternatives for addressing compliance with NEPA were identified as issues for discussion. General questions to focus workshop discussions were provided in the **Federal Register** notice and later supplemented by a more detailed set of questions. In addition, the **Federal Register** notice included a "Preliminary Regulatory Philosophy and Approach for License Renewal Regulation" and an "Outline of a Conceptual Approach to a License Renewal Rule." Written comments on the questions, the statement of regulatory philosophy, and the conceptual rule outline were accepted by the agency up to December 1, 1989. Transcripts were made of the entire workshop. Two hundred and one individuals (not including NRC staff) representing 89 organizations registered for the workshop. Comments provided during the workshop were from industry representatives and individuals affiliated with the nuclear industry. NUMARC, Yankee Atomic Electric Company, and Northern States Power Company presented prepared comments at each session. In addition, written comments were received from 12 organizations, including substantial submissions by NUMARC, Yankee Atomic, Northern States Power, Westinghouse, the Illinois Department of Nuclear Safety, and an independent consultant. DOE was the only Federal agency submitting written comments. No comments were submitted by any public interest group. The issues raised in these comments are discussed in NUREG–1411.

On July 17, 1990, the Commission issued for public comment the proposed rule for license renewal (55 FR 29043). Comments were also solicited on the following supporting documents that provided the basis for the rule: NUREG–1412, "Foundation for the Adequacy of the Licensing Bases"; NUREG–1398, "Environmental Assessment for

Proposed Rule on Nuclear Power Plant License Renewal"; and NUREG–1362, "Regulatory Analysis for Proposed Rule on Nuclear Power Plant License Renewal." A 90-day comment period was provided, which expired on October 15, 1990. Three requests for extension of the comment period were received. The Commission denied these requests (55 FR 34939, August 27, 1990) but reiterated its intention to consider comments received after the closing date if practical to do so. Comments received by December 31, 1990, were considered. In total, 197 comment letters were received, including 121 from organizations and 76 from private citizens.

Eighty-three separate responses were received from the nuclear industry. The most extensive comments were provided by NUMARC. In addition, four other industry organizations responded: Electric Power Research Institute, Nuclear Utility Group on Equipment Qualification, Nuclear Utility Backfitting and Reform Group, and Utility Decommissioning Group. Eighteen organizations representing vendors and manufacturers of nuclear-related equipment submitted comments, including Westinghouse Corporation and Asea Brown Boveri-Combustion Engineering Nuclear Power. In addition, two engineering firms responded. Thirty-five nuclear utility companies provided separate responses. Many of them did not provide detailed comments but simply endorsed the comments provided by NUMARC.

Three law firms submitted comments on behalf of utilities, nuclear industry groups, and other organizations. Spiegel and McDiarmid submitted comments on behalf of the American Public Power Association (APPA) and the National Rural Electric Cooperative Association and Power Systems. Winston and Strawn submitted five separate sets of comments. One set was on behalf of the Utility Decommissioning Group, one set was on behalf of the Nuclear Utility Backfitting and Reform Group (NUBARG), two were on behalf of nine utilities, and one was for seven utilities. Newman and Holtzinger submitted comments on behalf of 15 utilities.

Non-industry groups comprised 17 public interest groups, a publishing company (Nuclear Plant Journal), a business organization (U.S. Chamber of Commerce), a professional organization (American Nuclear Society), a law firm (Hopkins and Sutter), three Federal agencies, and nine State agencies. Some public interest groups submitted comments jointly with others (e.g., joint response by UCS and New England Coalition on Nuclear Pollution; and NIRS and Greenpeace). Fifteen residents near the Yankee Rowe plant stated their opposition to renewal of that plant's operating license. Forth-six other individuals submitted letters supporting the proposed rule. The DOE provided comments generally in support of the rule. Two agencies from the State of Ohio responded: Ohio EPA and Emergency Management Agency. Included in the State agency classification is the Massachusetts State Senate Office of Senator John Olver who represents a district near the Yankee Rowe plant.

An analysis of the public comments and the Commission's response to these comments are documented in NUREG–1428, "Analysis of Public Comments on the Proposed Rule on Nuclear Power Plant License Renewal." The Commission's resolution of principal issues raised by the commenters is also incorporated in the pertinent sections of the Statement of Considerations for this rule.

Implementation guidance for 10 CFR part 54 was drafted on the basis of the proposed rule and issued as drafts for public comment on December 10, 1990. Two staff guidance documents were included: Draft Regulatory Guide DG–1009, "Standard Format and Content of Technical Information for Applications to Renew Nuclear Power Plant Operating Licenses," December 1990, and NUREG–1299, "Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants," November 1990. The public comment period closed on March 8, 1991. These documents will be revised as a result of public comments, this final rule, and the experience gained during the review of the lead plant license renewal application.

The environmental impacts of individual nuclear power plant license renewals are the subject of a generic environmental impact statement (GEIS) and a separate rulemaking action that will propose changes to 10 CFR part 51. An Advance Notice of Proposed Rulemaking invited early public comments concerning this part 51 rulemaking (55 FR 29964; July 23, 1990). A Notice of Intent (NOI) to prepare a GEIS was simultaneously published with the notice of proposed rulemaking (55 FR 29967; July 23, 1990). The proposed revisions to part 51 and the supporting documents were published for public review and comment on September 17, 1991 (56 FR 47016). The comment period for this action expires December 16, 1991.

III. Final Action

The Atomic Energy Act, which permits renewal of licenses, and the Commission's current provision governing license renewal, 10 CFR 50.51, do not contain specific procedures, criteria, and standards that must be satisfied in order to renew a license. This final rule, 10 CFR part 54, establishes the procedures, criteria, and standards governing nuclear power plant license renewal.

The most fundamental issue in this rulemaking is what standards and scope of review should apply to license renewal decisions. The Commission's approach to and resolution of these issues are discussed in detail in section IV. In brief:

(1) It is not necessary for the Commission to review each renewal application against standards and criteria that apply to newer plants or future plants in order to ensure that operation during the period of extended operation is not inimical to the public health and safety. Since initial licensing, each operating plant has continually been inspected and reviewed as a result of new information gained from operating experience. Ongoing regulatory processes provide reasonable assurance that, as new issues and concerns arise, measures needed to ensure that operation is not inimical to the public health and safety and common defense and security are "backfitted" onto the plants. The Commission cannot conclude that its regulation of operating reactors is "perfect" and cannot be improved, that all safety issues applicable to all plants have been resolved, or that all plants have been and at all times in the future will operate in perfect compliance with all NRC requirements. However, based upon its review of the regulatory programs in this rulemaking, the Commission does conclude that (a) its program of oversight is sufficiently broad and rigorous to establish that the added discipline of a formal license renewal review against the full range of current safety requirements would not add significantly to safety, and (b) such a review is not needed to ensure that continued operation during the period of extended operation is not inimical to the public health and safety.

The regulatory process also reviews the ownership and operation of the facility to ensure that the operation of nuclear power plants will not be inimical to the common defense and security. Accordingly, the Commission concludes that a formal license renewal review against applicable common

defense and security requirements is not needed to ensure that continued operation during the period of extended operation is not inimical to the common defense and security.

(2) The Commission's ongoing processes have not, quite logically, addressed safety questions which, by their nature, become important principally during the period of extended operation beyond the initial 40-year license term. By their nature, these questions have limited relevance to safety under the initial operating licenses. This leads the Commission to conclude, as explained in greater detail in section IV, that age-related degradation of plant systems, structures, and components that is unique for the extended period of operation must be elevated before a renewed license is issued. This is a new safety issue that has not been treated in a comprehensive fashion in the Commission's ongoing oversight of operating reactors. However, age-related degradation will be critical to safety during the term of the renewed license. The Commission believes that the discipline of a formal integrated plant assessment of age-related degradation unique to license renewal is necessary. The Commission recognizes that, as it gains more experience with age-related degradation review, it may revisit the need for such a disciplined review process and potentially narrow the scope of the safety review. But for now, the Commission concludes that a formal review of age-related degradation unique to license renewal is needed at license renewal to ensure that operation during the period of extended operation will not be inimical to the public health and safety.

(3) Age-related degradation is the result of physical processes and a natural consequence of plant operation. Many plant SSCs have been designed for a 40-year life. The design of these SSCs has accounted for age-related factors such as fatigue, corrosion, and other effects of the environment to which the SSCs are exposed during at least this 40-year period. However, since license renewal will result in operation of these SSCs beyond the 40 years assumed in their design, additional analyses and/or actions may be necessary to ensure that an acceptable level of safety is maintained during the period of extended operation. For individual plants, there may be other safety issues that may arise in connection with renewal that, by their nature, are not relevant to safety during the initial operating license term. These kinds of issues would, by their nature, not be addressed in ongoing processes intended to provide adequate protection during the initial term of operation but, because of their plant-specific nature, must be addressed in renewals case by case.

(4) The licensing basis for a nuclear power plant during the renewal term will consist of the current licensing basis and new commitments to monitor, manage, and correct age-related degradation unique to license renewal, as appropriate. The current licensing basis includes all applicable NRC requirements and licensee commitments, as defined in the rule.

(5) An opportunity for a formal public hearing is provided to permit interested persons to raise contentions on the adequacy of the renewal applicant's proposals to address age-related degradation unique to license renewal and compliance with applicable requirements of 10 CFR part 51. Section 2.758 of 10 CFR part 2 is amended to specify the circumstances under which the 10 CFR part 54 rule may be challenged in such a hearing.

(6) A renewal application may be made not more than 20 years before license expiration. It must be made not less than 5 years before license expiration for the timely renewal provision of 10 CFR 2.109 to apply.

(7) A renewal license is effective upon its issuance and supersedes the existing operating license.

(8) A renewal license may be granted for a term as justified by the licensee, but not for more than 20 years beyond the existing license expiration.

IV. Principal Issues

a. Regulatory Philosophy and Approach: Two Principles

There is considerable logic to the proposition that issues that are material as to whether a nuclear power plant operating license may be renewed should be confined to those issues that are uniquely relevant to protecting the public health and safety and common defense and security during the renewal period. Other issues would, by definition, have a relevance to the safety and security of current plant operation. Given the Commission's ongoing obligation to oversee the safety and security of operating reactors, issues that are relevant to both current plant operation and operation during the extended period must be addressed now within the present license term rather than at the time of renewal. Otherwise, the scope of Commission inquiry into the safety and security during the current term of operation would depend on the unrelated decision of a licensee to seek license renewal and the timing of the Commission's renewal decision. In some cases, safety or security may be endangered if the resolution of a safety or security matter relevant to both ongoing and extended operation were postponed until the final renewal decision (which itself may occur several years after filing of the renewal application). While in theory the Commission could undertake duplicative reviews of issues that are relevant to both ongoing operation during the current license term and extended operation beyond the current term, this would be wasteful of the Commission's resources. As part of this rulemaking, the Commission has carefully considered the desirability of renewal reviews that would duplicate the Commission's ongoing review of operating reactors. This consideration has nonetheless led the Commission to formulate the following two principles.

The first principle is that, with the exception of age-related degradation unique to license renewal and possibly some few other issues related to safety only during extended operation, the regulatory process is adequate to ensure that the licensing bases of all currently operating plants provide and maintain an acceptable level of safety for operation so that operation will not be inimical to public health and safety or common defense and security. Continuing this regulatory process in the future will ensure that this principle remains valid during any renewal term if the regulatory process is modified to include age-related degradation unique to license renewal. Moreover, consideration of the range of issues relevant only to extended operation has led the Commission to conclude that there is likely only one real issue generally applicable to all plants—age-related degradation. The renewal rule focuses the Commission's review on this one safety issue but provides leeway for the Commission to consider, on a case-by-case basis, other issues unique to extended operation.

The second and equally important principle is that each plant's current licensing basis must be maintained during the renewal term, in part through a program of age-related degradation management for systems, structures, and components that are important to license renewal as defined in the final rule.

b. First Principle: Process for Ensuring Acceptability of Current Licensing Basis

(i) General

When the Commission issued the initial operating license under 10 CFR 50.57, it concluded that the facility had been completed and would be operated in accordance with the operating license application, the rules and regulations of the Commission, and the provisions of the Atomic Energy Act (AEA). Further, the Commission concluded that the authorized activities could be conducted without undue risk to the health and safety of the public and the common defense and security, the applicant was technically qualified, the applicable provisions of 10 CFR part 140 had been met, and the issuance of an operating license would not be inimical to the common defense and security or to the health and safety of the public. Thus, when the Commission issued the initial operating license, it made a comprehensive determination that the design, construction, and proposed operation of the facility satisfied the Commission's requirements and provided reasonable assurance of adequate protection to the public health and safety and common defense and security.

However, the licensing basis upon which the Commission determined at the issuance of the initial operating license that an acceptable level of safety existed, and that the common defense and security was provided, does not remain fixed for the term of the operating license. The licensing basis evolves throughout the term of the operating license because of the continuing regulatory activities of the Commission, as well as the activities of the licensee. As discussed in sections IV.b. (ii) through (vi) and IV.c, the Commission engages in a large number of regulatory activities which, when considered together, constitute a regulatory process that provides ongoing assurance that the licensing bases of nuclear power plants provide an acceptable level of safety. This process includes research, inspections, audits, investigations, evaluations of operating experience, and regulatory actions to resolve identified issues. The Commission's activities may result in changes to the licensing bases for nuclear power plants through the promulgation of new or revised regulations, acceptance of licensee commitments for the modification to nuclear power plant designs and procedures, and the issuance of orders or confirmatory action letters or confirmation that there is no need to change the licensing basis. In this way, the Commission's consideration of new information provides ongoing assurance that the licensing bases for all nuclear power plants provide an acceptable level of safety. The process will continue through the term of a renewed license. Similarly, the Commission considers new information on whether the nuclear power plants continue to provide for the common defense and security, such as changes in ownership or proposals to use highly enriched fuel. These processes will also continue throughout the term of the renewed license.

In addition to Commission-required changes in the licensing bases, a licensee may also seek changes to the current licensing basis for its plant. However, as a commenter indicated, these changes are subject to the Commission's formal regulatory controls with respect to the changes, including 10 CFR 50.59, 50.90, 50.91, and 50.92. Under § 50.59, a licensee may make changes to its facility without prior Commission approval if certain conditions are met; documentation of these changes must be maintained for specified periods of time. This regulation also requires a licensee to annually submit to the Commission a description of the changes made to the facility without prior NRC approval. A licensee may also request Commission approval to change its licensing basis or facility if the conditions stated in § 50.59 cannot be met, using the license amendment process described in §§ 50.90 and 50.92. These regulatory controls ensure that a documented basis for licensee-initiated changes in the licensing basis for a plant exists and that Commission review and approval is obtained prior to implementation if changes to the licensing basis raise unreviewed safety questions or involve changes to the technical specifications. The final safety analysis report is periodically updated to reflect such changes.

In sum, the Commission's regulatory processes provide reasonable assurance that the discipline of a formal license renewal review against either the full range of current safety requirements or the requirements on common defense and security would not add significantly to safety or common defense and security and is not needed to ensure that continued operation during the renewal term is not inimical to the public health and safety or the common defense and security.

(ii) Review of Operating Events

The Commission has a program for the review of operating events at nuclear power plants. As a requirement of the current licensing basis, and one that would continue during the renewal term, each licensee is required to notify the Commission promptly of any plant event that meets or exceeds the threshold defined in 10 CFR 50.72 and to file a written licensee event report for those events that meet or exceed the threshold defined in 10 CFR 50.73. The NRC reviews this information daily and follow-up efforts are carried out for events that appear to be potentially risk significant or are judged to be a possible precursor to a more severe event. Depending on the significance, further action may be taken to notify all licensees or to impose additional requirements. The NRC receives information on operating events from licensees in the form of licensee event reports and disseminates information that may be relevant to safety, safeguards, or environmental issues in the form of information notices. The NRC also transmits information to and requests action by licensees through bulletins and other reports such as generic letters. These documents typically require a written response from licensees concerning actions taken or to be taken over a period of time to address matters of safety, safeguards, or environmental significance. If a licensee's action does not adequately address items described in a bulletin, the staff may consider issuing an order to impose the specific requirement. The total program offers a high degree of assurance that events that are potentially risk significant or precursors to potentially significant events are being reviewed and resolved expeditiously.

(iii) Generic Safety Issues

As described in SECY–89–138, the Commission also maintains an active program for evaluating and resolving generic safety issues that may impact public health and safety. A generic safety issue (GSI) involves a safety concern that may affect the design, construction, or operation of all, several, or a class of reactors or facilities. Its resolution may have a potential for safety improvements and promulgation of new or revised requirements or guidance. The prioritization process, as described in NUREG–0933, evaluates the safety significance of an issue and classifies the issues as high, medium, or low priority GSIs. GSIs that are categorized as high priority are further evaluated to determine whether they involve questions regarding adequate protection of the public health and safety and therefore should be re-categorized as unresolved safety issues (USIs). GSIs are issues that involve

enhancements to safety but do not call into question the adequacy of the current licensing basis. By contrast, USIs are defined as issues that potentially involve adequate protection of the public health and safety. Thus, a USI may represent a matter where the adequacy of the current licensing basis has not been established. Resolution of a USI may result in a determination that action is necessary to ensure adequate protection, or it may result in a conclusion that, in fact, there are no concerns as to adequate protection of the public health and safety and further action is not warranted. The licensing basis of individual plants includes changes that have resulted from resolution of generic issues determined to be applicable and will include applicable generic-issue-derived changes in the future.

A special group of 22 GSIs deemed to be of sufficient significance to warrant both a high-priority resolution effort and special attention in tracking were designated as USIs. All USIs have been resolved. Most of the USI resolutions have been implemented; the remainder are being implemented on a satisfactory schedule. In one case, USI A–46, "Seismic Qualification of Equipment in the Operating Plants," the NRC and the utility groups are negotiating the implementation schedule in accordance with the NRC policy on integrated schedule for plant modifications, Generic Letter 83–20, dated May 9, 1983. This process for ensuring implementation of these remaining USIs is the same process used by the NRC in the past to ensure resolution and implementation of USIs. Furthermore, this process will be used in the future if the NRC identifies new issues that meet the definition of a USI.

The GSI resolution process, including USIs, is limited to issues that are not of such gravity that immediate action (remedy or shutdown) is required. Several comments were received suggesting that the implementation of all resolved USIs and GSIs should be a prerequisite to license renewal. The Commission disagrees. The Commission believes that it has used, and will continue to use, a regulatory process that ensures that issues constituting USIs will be identified, resolved, and implemented with no undue risk to the public health and safety or common defense and security. This process has proved effective in the past and will continue to be used in the future.

Cost-benefit analyses were employed as part of the basis of resolving GSIs involving safety enhancement above the adequate safety level. In these tradeoffs between net safety benefit and net cost, the remaining plant operating term ordinarily enters the calculations. Both the safety value and the cost impact can increase with added plant operating time. The safety value could increase over time more than the cost impact, as would be the case when costs are largely one-time initial costs but the risk reduction benefit accumulates year after year with continued operation. As part of its efforts toward developing the license renewal rule, the Commission examined the resolved GSIs for possible cases in which consideration of the additional operating time during the renewal term might have altered the regulatory decision. Since the cases in which cost-benefit tradeoffs entered the decision involved only safety enhancement issues and not issues of adequate safety, examination of the effect of the renewal term was not compelled by adequate safety considerations. Rather, the Commission undertook the examination as a matter of prudence to determine if there was a possible safety enhancement during the renewal term. The examination covered cases that have the following characteristics:

(1) Backfitting of a new requirement within the original license term was judged not to be worthwhile.

(2) Addition of a renewal term could increase the safety value without commensurate increase in cost impact.

(3) The extent and other circumstances of the effect of license renewal on values and impacts are such as to suggest the possibility that with a 20-year increase in operating time backfitting deserved consideration. In addition to operating time, projected population increases near the plant sites were taken into account.

Of the 249 GSIs that were resolved through October 1990, 139 did not result in backfit requirements. (GSI resolution efforts started or in progress after October 1990 examine renewal-term effects as part of the original issue resolution process.) A screening of these 139 GSIs led to the identification of three issues for which a reexamination of the backfit determination for the license renewal period appeared prudent. In two instances, the reexamination led to confirmation of the appropriateness of the no-backfit decision for an additional 20 years of operation beyond an original 40-year license term. A third issue had been placed in the resolution process for reconsideration aside from license renewal and is currently under reevaluation. All of the issues identified for reexamination are issues of potentially worthwhile safety enhancements; none involve adequate protection concerns. (A more detailed discussion of this reexamination appears in NUREG–1412. Details of the screening are reported in NUREG/CR–5382, "Screening of Generic Safety Issues for License Renewal Consideration," NRC, June 1991.)

(iv) Systematic Evaluation Program

In 1977, the NRC initiated the Systematic Evaluation Program (SEP) to review the designs of 10 of the oldest operating nuclear power plants and thereby confirm and document their safety. The reviews were organized into approximately 90 review topics (reduced by consolidations from 137 originally identified).

The SEP effort highlighted a group of 27 regulatory topics for which corrective action was generally found to be necessary for the initial SEP plants and for which safety improvements for other operating plants of the same vintage could be expected. The topics on this smaller list are referred to as the SEP lessons learned, and the Commission expects that these topics would be generally applicable to operating plants that received their construction permits in the late 1960s or early 1970s.

Four of the 27 regulatory topics highlighted in the SEP effort have been completely resolved and one is of such low safety significance as to require no regulatory action. The Commission has determined that none of the 22 issues remaining open requires immediate action to protect the public health and safety. The Commission has incorporated the 22 issues into the established regulatory process for determining the safety importance of GSIs. Further, attention as part of a license renewal application is not required. As with the case for GSIs and USIs, the existing prioritization process that is being used during the review and prioritization of the SEP lessons learned issues should prove to be adequate in the future to resolve these issues.

(v) Severe Accident Policy

The regulatory philosophy containing the two fundamental principles is also consistent with the Commission's policy statement entitled "Severe Reactor Accidents Regarding Future Designs and Existing Plants" (50 FR 23138; August 8, 1985). In this policy statement, the Commission concluded that existing plants pose no undue risk to public health and safety. Moreover, the Commission stated that it has ongoing nuclear safety programs, described in NUREG–1070, that include the resolution of unresolved safety issues and generic safety issues, the Severe Accident

Research Program, operating experience and data evaluation concerning equipment failures and human error, and review by NRC inspectors to monitor the quality of plant construction, operation, and maintenance. If new safety information were to become available, from any source, to question the Commission's conclusion of no undue risk, then any technical issues so identified would be resolved by the NRC under its backfit policy and other existing procedures, including the possibility of generic rulemaking.

(vi) Probabilistic Risk Assessment

Although a plant-specific probabilistic risk assessment (PRA) will not be a requirement for the renewal of plant operating licenses, the Commission recognizes that a plant-specific PRA can be used as an effective tool to provide integrated insights into the plant design, resulting in an additional relative measure of overall plant safety. While the Commission believes that the methodology for conducting an integrated plant assessment needed to ensure that aging of SSCs is appropriately managed should emphasize deterministic approaches, the Commission also acknowledges that PRA techniques could be used as a supplemental tool in the renewal applicant's integrated plant assessment. The Commission recognizes that PRA can be an effective tool to provide added assurance that all SSCs important to license renewal have been evaluated, as further discussed in section IV.e.

The Commission received a number of comments concerning the use of PRA or severe accident management studies for license renewal. The industry commented that completion of the individual plant examination (IPE) and individual plant examination for external events (IPEEE) programs for severe accident management using PRA-type analysis should not be a prerequisite to license renewal. Current severe accident programs, namely the IPE and IPEEE programs, although important to the Commission, are considered safety enhancements and, as such, their completion will not be a requirement for license renewal. For many licensees, the IPE and IPEEE programs may be completed before a license renewal application is submitted.

c. Current Licensing Basis

(i) Current Licensing Basis Explained

As defined in § 54.3 of the rule, the current licensing basis (CLB) is the set of NRC requirements applicable to a specific plant and a licensee's written commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and are in effect. The CLB includes the NRC regulations contained in 10 CFR parts 2, 19, 20, 21, 30, 40, 50, 51, 54, 55, 70, 72, 73, and 100 and appendices thereto; orders, license conditions; exemptions; and technical specifications. It also includes the plant-specific design basis information defined in 10 CFR 50.2 as documented in the most recent final safety analysis report (FSAR) as required by § 50.71(e). In addition, the CLB includes the licensee's written commitments remaining in effect that were made in docketed licensing correspondence such as licensee responses to NRC bulletins, generic letters, and enforcement actions, licensee commitments documented in NRC safety evaluations, or as described in licensee event reports.

The CLB generally undergoes adjustment from time to time in the light of new information that develops during the plant's operating life. The Atomic Energy Act directs the Commission to ensure that nuclear power plant operation is not inimical to the health and safety of the public. However, this standard is not absolute protection or zero risk, and therefore safety improvements beyond the minimum needed to meet this standard are possible. As new information is developed on technical subjects, the NRC identifies potential hazards and then may require that plants be able to cope with such hazards with sufficient safety margins and reliable systems. If this new information reveals an unreviewed safety question, the Commission may, in light of the information, conclude that assurance of an acceptable level of safety requires changes in the existing regulations. Therefore, as the Commission identifies new issues or concerns, reasoned engineering decisions occur within the Commission concerning whether any additional measures must be taken at plants to resolve the issues. When specific actions are identified, the Commission, through its regulatory programs, can modify the licensing bases at operating plants at any time to resolve the new concern. This process of determinations concerning backfitting of evolving requirements to plants already licensed is guided by the provisions of the backfit rule (10 CFR 50.109). Before promulgation of the current backfit rule, similar considerations were applied, though the backfit rule enhanced the discipline of the process.

In view of the regulatory programs and process just described, it is evident that the licensing basis differs among plants. These differences arise from differences in license date as well as differences in such factors as site, plant design, and plant operating experience. The paragraphs above have described, in general terms, the process employed by the Commission to provide continued assurance that the licensing basis at an operating plant provides an acceptable level of safety at any point in time during its operating life and that the current licensing bases of older plants remain acceptable through backfit of new requirements and guidance when that is necessary for adequate safety or warranted as worthwhile safety enhancements.

A large number of public comments expressed concern that the proposed definition of CLB restricted the CLB to the specific information on the docket at the time of the filing of a license renewal application. As such, the proposed CLB definition suggested that neither a licensee nor the staff could make changes to the existing 10 CFR part 50 license while the 10 CFR part 54 renewal application was under review. In the final rule, the Commission has revised the definition of the CLB by removing the phrasing that limited the CLB to that defined at the time of submittal of the renewal application. The Commission has also revised the rule (§ 54.21(e)) to include the requirement for licensees to provide periodic updates of the renewal application to reflect changes to the CLB. These updates should contain a determination whether any such changes would modify the renewal application.

Some commenters also raised a concern that the proposed CLB definition is too vague and too broad. In particular, commenters noted that the words "but are not limited to" are so broad as to render the definition meaningless, and the proposed definition did not specify that only written commitments should be included in the CLB. In response to these comments, the Commission has revised the CLB definition to restrict commitments to those that are written and on the plant-specific docket. The Commission has removed the ambiguous phrasing and has enhanced the definition to include written commitments as documented in the NRC safety evaluation reports.

The Commission has also added 10 CFR part 51 to the definition of the CLB. Inclusion of 10 CFR part 51, which

contains environmental protection regulations, is necessary to continue the current licensing bases for a plant licensed under 10 CFR part 50.

(ii) Regulatory Processes Underlying Current Licensing Bases

In support of the proposed license renewal rule, the Commission proposed to make a generic finding that the reasonable assurance of adequate protection findings for the issuance of an operating license continued to be true at the time of application for license renewal. Therefore, they need not be made anew at the time a renewed license is granted. As part of the final license renewal rule, the Commission no longer considers it appropriate to codify such a ruling in the regulations. The final license renewal rule reflects and documents the Commission's belief that, with the exception of age-related degradation unique to license renewal, current regulatory processes are sufficiently broad and rigorous and that these processes generally provide reasonable assurance that extended operation of existing plants would not endanger the public health and safety and would not be inimical to the common defense and security. This belief leads the Commission to find in this rulemaking that the discipline of a relicensing review process, except in the area of age-related degradation unique to license renewal, is not necessary to ensure that operation is not inimical to the public health and safety or common defense and security during the period of extended operation. NUREG–1412, "Foundation for the Adequacy of the Licensing Bases," describes how the licensing process has evolved in major safety issue areas under process that have ensured continued adequacy of all operating plants. NUREG–1412 provides historical illustrations of how the process has addressed potential safety issues and new information over the course of time. As such, it provides additional support for the Commission's determination that it is unnecessary to review an operating plant's licensing basis, except for age-related degradation concerns unique to license renewal, at the time of license renewal. NUREG–1412 does this in generic terms. NUREG–1412 also illustrates how the regulatory process has provided and will continue to provide assurance that an operating reactor's licensing basis will continue to provide an acceptable level of safety during any renewal term.

Commenters argued that the CLB of a number of plants is inadequate. Multiple examples of operational concerns and issues at specific plants were identified to demonstrate the inadequacy of the CLBs. In particular, existing NRC documents were referenced by a commenter to list operational concerns with power oscillations in BWRs, motor-operated valve testing, potential accidents when shut down, questions on the allowed cyclic lifetime of components, potential hydrogen combustion/explosion, and flooding caused by floor drains. Grandfather clauses in existing regulations and exemptions granted to regulations and previous backfit decisions were raised as challenges to the adequacy of the CLB. Additionally, cuts in the research budget were challenged as creating regulatory gaps to ensuring adequate protection. A commenter stated that stricter safety standards than those of the United States are being applied in some European countries, and this was evidence of the inadequacy of the CLB.

The Commission does not agree with these comments. The examples cited were all identified by the NRC through the inspection and oversight processes. The identification of these issues through the regulatory process demonstrates that the Commission's programs are effective in identifying new technical and safety issues and areas of noncompliance and at resolving these issues in a timely fashion. The resolution of issues can occur through a variety of mechanisms. The NRC used rulemaking to address resolution of hydrogen combustion/explosion issues and anticipated transients without scrams. The NRC has also issued generic letters requiring licensee analysis and description of action taken in response to the analysis for motor-operated valves, floor drains, and potential accidents while the reactor is shut down. In each example provided by the commenters, appropriate corrective action was taken or is being taken on a plant-specific or on an industry-wide basis to either modify the CLB to resolve the concern or to ensure the continued compliance with the present CLB.

Grandfather clauses in existing regulations and exemptions granted to existing regulations do not change the Commission's conclusion that the regulatory process ensures that plant-specific CLBs provide an acceptable level of safety. Grandfather clauses are provided in the regulations for one of two reasons. The plants grandfathered by a specific regulation either have a technically equivalent (but not an exact) resolution to the action required in the rule or the issue is considered a safety enhancement to be required on new designs but not backfitted on older plants. In either case, the regulatory process of rulemaking requires the Commission to make a decision on whether new requirements should be backfitted to all plants or a subset of plants and to provide the basis for that decision as part of the regulatory record. A review of existing regulations did not identify any grandfather clauses in which the decision to implement the specific regulation included time-dependent factors. In this light, the Commission continues to believe that current regulations, which may contain grandfather clauses, continue to provide and ensure that all plants provide an acceptable level of safety.

Exemptions to the regulations are granted with an approved plant-specific technical justification. Generally, exemptions are granted because the licensee has an equivalent but alternative method of satisfying the intent of the regulation. Thus, unless the exemption involves a time-dependent function, the existence of an exemption does not change the NRC's conclusion that the regulatory process is sufficient to ensure that the CLBs of all plants provide an acceptable level of safety for the renewal term of operation. The license renewal applicant will be required to review all exemptions granted by the Commission. Exemptions that do contain time-dependent considerations will be addressed in the license renewal application, as required by § 54.21(c).

Changes in NRC's research funding are not creating "regulatory gaps," as alleged by a commenter. The NRC's research funding is allocated based upon the safety significance and priority of the issues involved. The important issues affecting safety are funded, and it is expected that they will continue to be funded in the future. Lower-priority issues are addressed as funding permits.

The Commission does not agree that stricter safety standards are being applied in some European countries than are those of the United States. In many cases, the standards used by other countries are identical to those used in the United States. In other cases, there are differences between standards or approaches to regulation, but these differences cannot necessarily be characterized in terms of standards being stricter or less strict. The issue is not a comparison of the strictness of specific standards but, rather, plant safety. The requirements and regulations when coupled with the regulatory programs must be adequate to provide reasonable assurance that authorized activities can be conducted without endangering the health and safety of the public. As noted previously, the Commission has

concluded that the regulatory processes are sufficiently broad and rigorous to provide such reasonable assurance.

In sum, the NRC's regulatory process is sufficiently broad and rigorous to establish that the added discipline of a formal licensing review at license renewal against the full range of current safety requirements is not necessary to ensure that extended operation is not inimical to the public health and safety.

(iii) Compliance With the Licensing Bases

The Commission has determined that a finding of compliance of a plant with its current licensing basis is not required for issuance of a renewed license. When a plant's original operating license was issued, the Commission made a finding, pursuant to 10 CFR 50.57(a)(1), that construction of the plant had been substantially completed and was in conformity with the construction permit, the operating license application, the requirements of the Atomic Energy Act, and the NRC's rules and regulations. That finding was essentially equivalent to a finding that the plant was in compliance with its licensing basis as it existed at the time of issuance of the operating license.

Once the operating license is issued, the licensee must continue to comply with its licensing basis unless the licensing basis is properly changed or the licensee is formally excused by the NRC from compliance. Assurance of continued licensee compliance during the license term rests on two factors: (1) Licensee programs required by the NRC's rules and regulations to ensure continued safe operation of the plant, and (2) the NRC's regulatory oversight program.

The licensees' programs include self-inspection, maintenance, and surveillance programs that monitor and test the physical condition of plant equipment as the plant operates, as well as review of systems, structures, and components. Through these programs, licensees identify the degradation of components due to a number of different environmental stressors and are, in general, able to replace or refurbish their equipment so that the frequency and severity of challenges to plant systems, structures, and components would be expected to remain within acceptable limits and the necessary safety features would be expected to work when actually called upon under transient or accident conditions.

The Commission's inspection program has been constructed around a series of inspection procedures that provide for the routine examination of activities at an operating nuclear facility on a periodic basis. Once licensed, a nuclear facility remains under NRC surveillance and undergoes periodic safety inspections during construction and operation. The inspection program is designed to obtain sufficient information on licensee performance, through direct observation and verification of licensee activities, to determine whether the facility is being operated safely and whether the licensee management control program is effective and to ascertain whether there is reasonable assurance that the licensee is in compliance with the NRC regulatory requirements. The program includes inspection of the licensee's performance in technical disciplines such as operations, radiological controls and protection, maintenance, surveillance, emergency preparedness, physical security, and engineering.

The NRC inspection program relies primarily on audits. Thus, it does not necessarily examine every activity or item, but verifies, through carefully selected samples, that activities are being properly conducted to enhance or ensure safety. The inspection process monitors the licensee's activities and provides feedback to the licensee's plant management to allow it to take appropriate corrective actions.

The current inspection program allocates NRC's inspection resources between three types of inspections. These are mandatory inspections, regional initiative and reactive inspections, and special emphasis inspections and are specified in the NRC Inspection Manual Chapters. A minimum set of mandatory routine inspections, referred to as the Core Program, are performed at each operating unit to evaluate licensee performance and identify potential safety concerns in their early stages of development. This group of inspections is a primary activity for resident inspectors and regional specialist inspectors. These inspections emphasize observation and evaluation of ongoing facility operations and supporting activities affecting the safety function of facility systems, structures, and components.

The inspections known as regional initiative or reactive inspections are conducted by the NRC staff in response to plant safety performance concerns or where NRC believes the greatest safety benefit can be obtained. The initiative component of the inspections program is used to follow up on problems identified in licensee performance during the mandatory routine inspections. The reactive component of the inspection program allows NRC to respond to allegations, unusual circumstances, and operational events. These reactive efforts vary from inspections of minor events and allegations to evaluation of major events. They are far-ranging and involve assessment of the initial response to the incident itself, participation in the restoration of the plant to a safe state, and post-event evaluation. Frequently, the post-event analysis points out the need to inspect other plants that may have similar problems.

Lastly, special emphasis inspections include mandatory team inspections that provide for inspection emphasis in a selected area of plant operations or inspections to follow up on safety issues that are generic in nature and special headquarters team inspections that are intended to address a specific area of concern regarding safe operations. Multidisciplinary teams, led by a supervisor or an experienced team leader, are designed to inspect ongoing engineering and operational activities concurrently and audit the administrative controls governing the management of the activities. This type of inspection gives NRC an indepth, detailed look at how the licensee's organization functions as a unit. Additionally, it offers insight into the overall effectiveness of the licensee's program. Thus, a team inspection provides a comprehensive examination of a licensee's program, whether it is a facility under construction or in operation. Team inspections are manpower intensive, and the multidisciplinary aspect gives an added perspective that cannot be achieved by individual inspectors. For example, operational readiness team inspections are used by the regional staff to make integrated assessments of hardware, procedures, and plant personnel performance. Most operational readiness team inspections are conducted during the startup of new plants or during the startup of currently licensed plants after long outages. They generally are about a week in duration and include around-the-clock coverage during critical evolutions. These performance-oriented multidiscipline team inspections have been found to be an effective means for assessing licensee performance.

It is particularly important to note that implementation of the NRC inspection program does not supplant the licensee's programs or responsibilities. Rather, it provides a feedback mechanism and an independent verification of the effectiveness of the licensee's implementation of its programs to ensure that operations are being

conducted safely in accordance with applicable NRC requirements.

The NRC staff performs inspections on nuclear power reactors both during construction and throughout the plant operating life. As a reactor progresses through design, construction, preoperational readiness, startup, operation, and now license renewal, the inspection program changes to meet the specific needs of each phase. An onsite resident inspector provides a continuous regulatory presence, as well as a direct contact between NRC and the licensee. From the vantage point of NRC, the resident inspector is a key individual in determining what additional inspections need to be performed at a specific site and in ensuring that the overall inspection program at the facility is accomplished.

The regular inspection activity of the resident inspector is supplemented by the efforts of engineers and specialists from the NRC's regional and headquarters staff who perform inspections in a wide variety of engineering and system disciplines, ranging from civil and structural to health physics and reactor core physics. The specialist inspectors provide a perspective that is different from, but complementary to, that of the resident inspector. Since the specialists inspect many different plants and therefore see many different ways of accomplishing a function, they have a comprehensive view of their specialty.

In summary, the inspection program, as discussed in NRC Inspection Manual Chapter (IMC) 2500, Reactor Inspection Program, and IMC–2515, Light-Water Reactor Inspection Program—Operations Phase, and as implemented, provides reasonable assurance that conditions adverse to quality and safe operation are identified and corrected and that a formal review of compliance by a plant with its licensing basis is not needed as part of the review of that plant's renewal application.

Both the licensees' programs for ensuring safe operation and the Commission's regulatory oversight program have been effective in identifying and correcting plant-specific noncompliance with the licensing bases. These programs will continue to be implemented throughout the remaining term of the operating license, as well as the term of any renewed license. In view of the comprehensiveness, effectiveness, and continuing nature of these programs, the Commission concludes that license renewal should not include a new, broad-scoped inquiry into compliance that is separate from and parallel to the Commission's ongoing compliance oversight activity. Noncompliances are generally independent of (in a casual sense) the renewal decision.[1] For example, failures to comply with station blackout requirements are not "caused" by the impending expiration of an operating license.

(iv) Consideration of the Current Licensing Bases

Section 54.21(a) of the proposed rule would have required that a licensee "compile a list of documents identifying portions of the current licensing basis relevant to the integrated plant assessment." This list was to have been submitted to the NRC as part of the renewal application. The proposed rule also would have required the licensee to "review the current licensing basis compilation for the purpose of determining the systems, structures, and components to be evaluated and the acceptance criteria to be used in the integrated plant assessment." Finally, the proposed rule would have required the licensee to maintain "all documents describing the CLB" in an auditable and retrievable form. A large number of public comments were received on the need to compile the CLB. Commenters argued that compilation of the CLB in an auditable form is unnecessary since all such documents are already on file with the NRC and in its public document room. In addition, these commenters also indicated that compilation of the CLB is not necessary for the integrated plant assessment (IPA) since § 54.21(a)(4) of the proposed rule would have required the applicant to describe and provide the basis for resolving issues presented by the age-related degradation of SSCs. Others commented that the NRC should not only require a list of the documents comprising the CLB, but also the documents themselves. These commenters stated that the NRC should review the documents to ensure that the plant is complying with the CLB.

After consideration of all comments concerning the compilation of the CLB, the Commission has concluded that it is not necessary to compile, review, and submit a list of documents that comprise the CLB in order to identify the systems, structures, and components (SSCs) important to license renewal and to be considered in the IPA.

The Commission has determined that licensees should be provided the flexibility to develop the methodology to ensure that (1) all SSCs important to license renewal have been identified, (2) the effects of age-related degradation unique to license renewal have been evaluated, and (3) the necessary programs for management of this age-related degradation have been or will be implemented, rather than the Commission explicitly prescribing compilation of the CLB. Therefore, the final rule has been revised to require license renewal applicants to describe and justify their methods (1) for identifying and screening all SSCs important to license renewal; (2) for ensuring that the current licensing basis is used, as necessary, to evaluate and establish aging management programs; and (3) for ensuring that a licensee's age-related degradation management program maintains the current licensing basis for SSCs during the period of extended operation.

The Commission will evaluate the licensee's methodology based on an understanding that the design of many components, including safety margins, was initially assumed to have a service life of 40 years. The licensee's methodology should refer to the CLB, as necessary, to identify and define the technical limits for operation of important components. These technical limits would need to be evaluated as part of a renewal application to ensure that operation during the renewal term would not exceed the design capability of specific components, including appropriate safety margins. The evaluation of the effects of fatigue on SSCs is an example of how the CLB along with other documentation may be used in the IPA. To evaluate the effects of fatigue, a licensee would have to refer to the CLB to identify the design assumptions affecting service life, actual plant conditions, and applicable requirements and commitments in order to determine whether the character or magnitude of fatigue is greater than assumed for the initial operating term and new actions need to be initiated.

The Commission has revised §§ 54.21(a) and 54.37 to more clearly set forth the licensee's obligations with respect to the CLB. First, the renewal applicant must describe and justify the methodology used to identify SSCs important to license renewal. The methodology must include a description of how the CLB was considered in identifying effective programs for SSCs important to license renewal that have age-related

[1] However, allegations that the implementation of a licensee's proposed actions to address age-related degradation unique to license renewal has or will cause noncompliance with the plant's current licensing basis during the period of extended operation, or that the failure of the licensee to address age-related degradation unique to license renewal in a particular area has or will cause such noncompliance during the period of extended operation would be valid subjects for contention, since the claim essentially questions the adequacy of the licensee's program to address age-related degradation unique to license renewal.

degradation that is unique to license renewal.

Second, the licensee is required by § 54.37(a) to maintain all documents referenced in the IPA in an auditable and retrievable form. By "auditable and retrievable," the Commission intends that the documents be available for licensee use and NRC inspection within a reasonable time period. While the documents need not be stored together at the same physical location, the licensee should have a system so that the documents can be retrieved from storage.

Third, the licensee's evaluation of aging management programs includes consideration of the CLB as appropriate.

The Commission has also added a supplement.

d. Second Principle: Maintaining the Licensing Basis During Renewal Term

(i) General

The second principle for license renewal is that the plant-specific licensing basis must be maintained during the renewal term in the same manner and to the same extent as during the original licensing term. This principle is a necessary complement to the first principle. Several provisions in the rule serve to ensure adherence to the licensing basis: (1) Section 54.22 requires that the technical specifications be changed as needed for license renewal, (2) § 54.33(d) requires as a condition of the license that the licensee maintain the effectiveness of programs approved by the staff to manage age-related degradation unique to license renewal, (3) § 54.37(b) requires the licensees to periodically update their FSAR supplement to accurately reflect the current status of systems, structures, and components important to license renewal and of age-related degradation management programs, (4) § 54.37(c) requires licensees to annually submit a list of changes to programs managing age-related degradation unique to license renewal that do not decrease the effectiveness of these programs and a summary of safety evaluations supporting such changes, and (5) § 54.33(e) states that the licensing basis for the renewed license shall include the plant's current licensing basis as defined in § 54.3(a), which includes those provisions addressing age-related degradation. These provisions, together with the continuation of the NRC's regulatory oversight program throughout the term of a plant's renewed license, will ensure that the current licensing basis will be maintained throughout the term of the renewed license in the same manner and to the same extent as during the original licensing term.

The Commission intends to continue its regulatory oversight program throughout the term of renewed licenses. This program, discussed in detail in section IV.c, "Current Licensing Basis," has been successful in the past in ensuring licensee compliance with applicable requirements and licensee commitments, as well as identifying important areas of noncompliance. The Commission believes that this oversight, when continued throughout the term of the renewed license and modified as necessary to reflect new information and experience of extended operation, will also provide reasonable assurance that licensees are in compliance with their plants' licensing bases during the term of their renewed licenses.

Several commenters expressed concern that the wording of 10 CFR part 54 elevated all commitments of the current licensing basis to an equivalent level of a license condition for the renewal term. The Commission did not intend that all commitments have equal safety importance or enforcement status. The Commission recognized that the current licensing basis consists of many diverse elements of varying safety importance and enforcement status. Some elements are formal license conditions, technical specifications, or additional conditions that require prior NRC approval before changing; others are written commitments on the docket that may be changed by the licensee.

By stating that the current licensing basis is maintained for the renewal term, the Commission intends to ensure the continuation of an acceptable level of safety for that plant. Through its review and oversight programs, the Commission will ensure that the operation of the plant will remain within previously established limits. The Commission included § 54.33(e) to specifically state that the status of commitments on the existing 10 CFR part 50 docket would remain unchanged by the renewed license. However, if a licensee's previous commitments are relied upon in the renewal application as an effective program to manage age-related degradation during the renewal term, these commitments will become part of the licensing basis for the renewal term since they would form part of the bases for the Commission's finding that age-related degradation unique to license renewal will be effectively managed during the renewal term. These commitments can only be changed in accordance with § 54.33(d) of the final rule.

(ii) Licensing Basis Changes

The principle of maintaining the licensing basis does not preclude changes to the licensing basis. However, changes to the plant's current licensing basis that are unrelated to age-related degradation unique to license renewal will not be considered or proposed by the Commission in determining whether to grant the renewal application.

The current licensing basis for any plant, as defined in § 54.3 of the final rule, generally continues to evolve and change as a result of both licensee and NRC action. Licensees may seek to change the current licensing basis for their plants as a result of new information learned about systems, structures, and components used in the operation of their plants. The licensing basis for a plant may also change as the Commission adopts new requirements that are implemented by existing plants or as existing requirements are modified and backfit onto the older plants. These licensing basis changes are not intended to address age-related degradation during the renewal term. To focus the NRC's review of a renewal application on age-related issues and preclude consideration of issues not relevant to age-related degradation that occurs during the renewal term, the Commission proposed, in § 54.3, that the current licensing basis become fixed at the time of application and remain fixed during the review. Many commenters disagreed with the Commission's proposal to restrict changes to the current licensing basis, pointing out that licensees must have the flexibility to modify their licensing bases to meet operational needs. Some commenters recognized, however, that the licensing basis for the operating license and the licensing basis for the renewal application must remain consistent throughout the review process. They suggested that licensees be permitted to change the licensing bases in the operating license context and periodically inform the NRC of such changes and any potential impact upon the integrated plant assessment.

After considering these views, the Commission agrees that licensees should be provided the flexibility to request changes to the existing operating license for reasons other than age-related degradation. These changes must be made using current regulatory practices, e.g., under 10 CFR 50.59 or amendment to the existing operating license pursuant to 10 CFR 50.90. A

license renewal application should not include any changes to the current licensing basis other than those necessary to address age-related degradation unique to license renewal. An opportunity for hearing on any license amendment is provided in accordance with section 189 of the Atomic Energy Act.

To ensure that the effect of changes to a renewal applicant's existing licensing basis is evaluated during the review of a renewal application, renewal applicants will be required to update the renewal application (including the integrated plant assessment) annually. Each update must contain a description of the nature of the change in the licensing basis; the systems, structures, and components affected; any additional measures needed to ensure that age-related degradation unique to license renewal can be managed during the renewal term; and any change in the effectiveness of programs credited for managing age-related degradation. Whether a licensee has correctly identified the potential impact of such changes in its renewal application may be litigated in a hearing on the renewal application.

e. Aging Management and Integrated Plant Assessment

(i) General

The rule requires that the applicants for license renewal take necessary actions to ensure that the plant will continue to meet the CLB during the renewal term. Required actions would include those necessary for the effective management of age-related degradation of systems, structures, and components (SSCs) important to license renewal.

(ii) Effects of Aging

Aging can affect all SSCs to some degree. Generally, the changes due to the aging mechanisms involved are gradual. Licensees are required, by current regulations, to develop and implement programs that ensure that conditions adverse to quality, including degraded system performance, are promptly identified and corrected. As a result of these programs, degradation due to aging mechanisms is currently being addressed to varying degrees, either directly or indirectly, for many of the SSCs important to license renewal. However, age-related degradation becomes a subject of regulatory concern in the context of license renewal when (1) its effects are different in character or magnitude after the term of the current operating license (the period of extended operation) or (2) its effects were not explicitly identified and evaluated by the licensee for the period of extended operation and the evaluation found acceptable by the NRC or (3) it occurs only during the period of extended operation.

Continued safe operation of a commercial nuclear power plant requires that SSCs that perform or support safety functions continue to perform in accordance with the applicable requirements in the licensing basis of the plant and that other plant SSCs do not substantially increase the frequency of challenges to plant safety systems. As a plant ages, a variety of aging mechanisms are operative. They include fatigue, erosion, corrosion, erosion/corrosion, wear, thermal and radiation embrittlement, microbiologically induced effects, creep, and shrinkage.

Existing regulatory requirements, ongoing licensee programs, and national consensus codes and standards address the aging mechanisms indicated above and the means of mitigating age-related degradation. However, the Commission believes that certain age-related degradation that may be important in the period of extended operation is not required to be addressed during the present license term in a manner that would be adequate for the period of extended operation. For example, if a degradation effect first occurs only after 40 years or has been determined by analysis or test to be unimportant for the first 40 years, there would be no regulatory requirement to address this aging during the initial 40-year term of license. Alternatively, degradation may have been analyzed, evaluated, and acted on in the original design for only 40 years, but not analyzed for the period extending beyond 40 years (as is generally the case, for example, with fatigue and with environmental qualification of equipment). Such situations must be analyzed for the period of extended operation as a basis for determining any additional aging management actions that may be required for license renewal.

It should be noted that the term "unique to license renewal" does not mean that the timing of required age-related degradation management actions is necessarily limited to the period of extended operation. Indeed, actions may be required well within the original license term in order to achieve a desired result for the period of extended operation. For example, in connection with the pressurized thermal shock issue, reduction of neutron flux to the reactor vessel may well need to be started years before original license expiration in order to prevent excessive radiation embrittlement in the period of extended operation.

Age-related degradation of SSCs are important to license renewal, if unmitigated, could lead to the loss of required functions, unacceptable reduction in safety margins, or higher rates of challenge to plant safety systems during the renewal term. Given the close connection between renewal and age-related degradation, the Commission concludes that a formal, disciplined licensing review of age-related degradation unique to license renewal is necessary.

(iii) Integrated Plant Assessment

The approach reflected in the final rule is to require each renewal applicant to address age-related degradation unique to license renewal through an integrated plant assessment (IPA) that demonstrates that the facility's SSCs important to license renewal have been identified and that age-related degradation unique to license renewal will be managed, as needed, to ensure that the facility's licensing basis will be maintained throughout the term of the renewed license. The required assessment consists of a screening process to select SSCs important to license renewal, an evaluation of the age-related or performance degradation of those SSCs important to license renewal to determine if the degradation is unique to license renewal, and when such degradation is identified, an evaluation and demonstration that new programs or licensee actions will be implemented to prevent or mitigate the age-related degradation unique to license renewal during the period of extended operation. In the first principle, the Commission concluded that the regulatory processes provide reasonable assurance that the current licensing bases of operating plants provide an acceptable level of protection of the public health and safety or common defense and security so that a broad safety review is not required at license renewal. This conclusion covers age-related degradation occurring during the current licensing term. Such degradation is being addressed by ongoing programs to identify and manage the degradation so that corrective action is taken to ensure continued safe operation. Therefore, for a renewal of an operating license, the Commission has determined that only degradation mechanisms or effects that are unique to the period of operation beyond the current licensed term (as defined in § 54.3) should be the focus of evaluation for a renewal license. In order to accomplish the above, the

Commission has established in the final rule specific requirements that an IPA must satisfy.

First, the IPA must contain a description of the methodology to be used to identify the plant-specific SSCs that satisfies the rule definition of SSCs important to license renewal. The scope of the rule definition of SSCs important to license renewal is discussed in greater detail below. The methodology should contain the criteria used to select components and to identify components that contribute to the performance of a required system function or whose failure could prevent the performance of a required system function. The methodology should also describe the criteria to be used in determining whether the age-related degradation of individual structures or components is unique to license renewal.

Second, the IPA should contain specific lists of SSCs important to license renewal. The lists may be provided in a combined format but must address the specific information required by this rule.

Third, the renewal applicant must specifically identify those components that are subject to age-related degradation unique to license renewal and provide the technical basis for structures and components that the applicant has determined do not have degradation unique to license renewal. The justification for excluding components should address such factors as the design or service life of the component or structure.

Fourth, the IPA should contain (1) a demonstration that, for all structures or components identified as being subject to degradation mechanisms or exhibiting degradation effects unique to license renewal, the degradation mechanism or effects will be addressed through an effective program as defined in the rule, or (2) a demonstration that an effective program is not necessary for a specific component.

The Commission concludes that applicants for license renewal should address age-related degradation unique to license renewal by focusing on the identification and management of age-related degradation mechanisms for those SSCs that are of principal importance to the safety of the plant. The Commission also believes that the focus of an age-related degradation evaluation for a license renewal cannot be limited to only those SSCs that the Commission has traditionally defined as safety related. The initial review of the plant covered both safety-related and non-safety-related systems and was primarily concerned with ensuring that the systems and components would not have to operate beyond their design basis during the initial 40-year license. Therefore, the Commission has determined that, in order to ensure the continued safe operation of the plant during the renewal term, SSCs important to license renewal should include (1) safety-related equipment, (2) all non-safety related SSCs that directly support the function of a safety-related SSC or whose failure could prevent the performance of a required function of a safety-related SSC, (3) all SSCs relied upon to meet a specific set of Commission regulations, and (4) all SSCs subject to the operability requirements contained in the facility technical specification limiting conditions for operation.

Thus, SSCs important to license renewal would include those relied on to remain functional during design basis events, including conditions of normal operation, anticipated operational occurrences, design basis accidents, external events, and natural phenomena for which the plant was designed. SSCs important to license renewal also include those non-safety-related SSCs that function to support safety-related systems because their failure would render a safety-related SSC inoperable.

The Commission has determined that SSCs having operability requirements in technical specification limiting conditions for operation are important to license renewal. The Commission notes that this definition is not limited solely to those components that are specifically identified in the technical specifications. This type of interpretation would result in only the top level systems being evaluated to ensure that the effects of age-related degradation unique to license renewal would be managed during the renewal term, but all the supporting systems necessary for operation would not be similarly evaluated. It would be similar to saying that the emergency diesel generators are important to license renewal but the diesel fuel transfer system or fuel storage tanks are not. Current regulatory practice for technical specifications defines the necessary criteria that must be satisfied for a system, structure, or component to be operable or to have operability. Specifically, a system, subsystem, train, component, or device is operable when it is capable of performing its specified function(s) and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or any other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support functions. The Commission expects licensees to apply the same regulatory practice with respect to operability for purposes of determining SSCs important to license renewal.

In addition, plants typically have five modes (BWR) or six modes (PWR) of operation specified in the technical specifications. The Commission is not restricting the definition of SSCs important to license renewal to any particular mode of operation and considers equipment operability in all modes of operation to be equally important in defining SSCs important to license renewal.

In sum, the Commission defines the scope of this portion of the definition of SSCs important to license renewal to include all systems or components necessary for operation in any mode of plant operation that has operability requirements in the plant technical specifications limiting conditions for operation. This includes (1) all systems or components specifically identified in the technical specification limiting conditions for operation, (2) any system or component for which a functional requirement is specifically identified in the technical specification limiting conditions for operation, and (3) any necessary supporting system or component that must be operable or have operability in order for a required system or component to be operable.

Examples of a component or system meeting category (1) could include snubbers, radiation monitors, and specific emergency core cooling systems. An example of the type of components that would be in category (2) would be systems or components that would be necessary for ensuring primary containment integrity. Current BWRs are required to have primary containment integrity during power operation. Thus, all containment penetrations and isolation valves would be important to license renewal. An example of components or systems in category (3) would include all supporting systems and components supporting operation of the recirculation system in BWRs. As required in the technical specification limiting conditions for operation, one recirculation loop must be operable. Because any one of the recirculation loops could be used, the operability requirements would have to extend to all recirculation loops and therefore the entire recirculation system would be defined as important to license renewal. Under the current technical specifications, the supporting systems necessary for the loop operation must also be operable in order for the

recirculation loop to be considered operable. These would include such systems as the non-safety-related seal water cooling systems and non-safety-related power supplies for the recirculation pumps. Thus, these non-safety-related systems would be considered important to license renewal.

Screening of SSCs will identify those that, by virtue of their roles in ensuring the safety of plant operations, are important to license renewal and, accordingly, could require additional attention. In connection with the integrated plant assessment, it is recognized that there are many SSCs important to license renewal that are either covered by the existing ongoing NRC requirements and licensee-established programs or are not subject to age-related degradation. The integrated plant assessment is expected to take such factors into account so that programs for managing age-related degradation could be properly scoped and focused.

The renewal applicant is required to describe and justify the method to be employed for the SSC selection process. The method should be comprehensive and primarily deterministic so that the Commission could conclude with reasonable confidence that all SSCs important to license renewal have been identified and evaluated.

The major technical issues raised in various comments that addressed the proposed rule and one or more of its supporting documents were related to (1) the selection of SSCs important to license renewal and (2) what constitutes an established effective program for managing aging in operating nuclear power plants. Three key issues related to the selection of SSCs important to license renewal and requiring management of aging during a renewed license term were raised. These issues are addressed below:

(1) A number of commenters referred to the NUMARC "Methodology to Identify and Evaluate Plant Equipment for License Renewal" (December 1990) and proposed changing the rule and its supporting documents in ways that would conform to this methodology or endorse it. The Commission has decided not to incorporate a specific methodology in the rule. The Commission will continue to review the NUMARC methodology to ensure that the methodology for screening SSCs important to license renewal addresses all important features required by the rule. The Commission notes that elimination of structures and components important to license renewal from further aging consideration on the basis of an *a priori* claim by the licensee that they are subject to an effective program is not an acceptable technical basis since it does not include an evaluation of the possibility of age-related degradation problems unique to license renewal and an evaluation of the adequacy of the program to manage any such age-related degradation. Such an approach could result in elimination of most if not all of the structures and components in the plant from any substantive consideration for age-related degradation. An acceptable technical basis should include a demonstration by appropriate technical arguments that the age-related degradation is not unique to license renewal or programs for managing age-related degradation unique to license renewal are effective.

(2) In a related comment, a stated concern was that the inclusion of all SSCs used in safety analyses or plant evaluations could include any work done in response to any NRC inquiry, e.g., balance-of-plant systems. As stated in the final rule, the Commission considers the safety-related SSCs and those relied on to demonstrate compliance with the Commission's regulations for 10 CFR 50.48 (Fire Protection), 10 CFR 50.49 (Environmental Qualification), 10 CFR 50.61 (Pressurized Thermal Shock), 10 CFR 50.62 (Anticipated Transients Without Scram), and 10 CFR 50.63 (Station Blackout) as important to license renewal. As part of 10 CFR 50.49, certain post-accident monitoring equipment specified as Category 1 and 2 in Revision 2 of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," are covered in the scope of the license renewal rule. Such post-accident monitoring equipment is important to license renewal. The rule also includes SSCs that directly support the operability of safety-related equipment. The rule has been revised to include SSCs that have operability requirements contained in technical specification limiting conditions for operation in lieu of the less specific proposed requirement to include all SSCs used in any safety analysis or plant evaluation. This revised scope is consistent with the Commission's intent to not reexamine the entire plant for license renewal but to ensure that all SSCs important to safe plant operation are identified and evaluated for the effects of age-related degradation unique to license renewal.

(3) A commenter further stated that a system interaction review would be required to meet the criterion that SSCs important to license renewal are any, including non-safety-related, SSCs whose failure could prevent satisfactory accomplishment of required safety functions. It was stated that USI A-17, Systems Interaction at Nuclear Power Plants, was resolved via Generic Letter (GL) 89-18 with no specific action required of licensees.

The Commission's interpretation differs from that of the commenter. The inclusion of SSCs whose failure could prevent another SSC from accomplishing a safety function is intended to provide protection against safety function failure in cases where the safety-related structure or component is not itself impaired by age-related degradation but is vulnerable to failure of another structure or component that may be so impaired. Two examples of these types of SSCs are: (1) Nonseismically qualified equipment located near seismically qualified equipment and thus potentially affecting seismically qualified equipment, and (2) the direct connection of non-safety-related systems (i.e., some instrument air systems) with safety-related systems. Other examples are components providing power, cooling, fluid, etc., to safety-related SSCs.

The Commission intends this provision of the definition of SSCs important to license renewal to apply to SSCs with a reasonably direct bearing on the functioning of the safety-related SSCs. This provision of the rule does not include the propagation of failures that are hidden or unanticipated as included in the definition of a system interaction, GL 89-18, or other indirect effects that are so remote or speculative as to cause no reasonable safety concern. However, if a licensee has conducted a partial system interaction study and made certain commitments on the docket, then these commitments are part of the current licensing basis and should be considered by the licensee in determining SSCs important to license renewal.

(iv) Supplementary Use of Probabilistic Techniques

The screening methods—as well as aging management approaches—selected by the license renewal applicants may also include use of probabilistic risk assessment (PRA) techniques as a supplement to the primarily deterministic methods. The public comments at the November 1989 license renewal workshop and those submitted in writing following the workshop reflected the view that the use of PRA should be permitted, but not required, in the screening process for SSCs.

Additionally, three comments on the proposed rule recommended the use of PRA for the selection of SSCs important to license renewal. A comment was made to emphasize the importance of common-cause failures as an important factor in assessing and managing aging. The Commission considers that at the present time appropriate aging data and models have not been developed for many SSCs for inclusion in the PRAs, and uniform criteria do not exist for evaluating the PRA results.

Nevertheless, at the present time, probabilistic assessments can be a useful adjunct to deterministic methods to help draw attention to specific vulnerabilities and to help guard against significant oversights in the screening process. In view of the PRA limitations discussed, probabilistic assessment alone is not an acceptable basis for the exclusion of SSCs to be evaluated as part of an IPA. It may be useful to identify additional SSCs to be evaluated as part of the IPA.

(v) Management of Age-Related Degradation Unique to License Renewal

The planning for the management of age-related degradation unique to license renewal reflects the knowledge that materials, stressors, the operating environment, and their interactions contribute to age-related degradation in SSCs. When these interactions cause degradation of reliability and impact safety, then the effects of age-related degradation unique to license renewal must be mitigated to ensure that the aged SSCs will adequately perform their design safety functions. The acceptable elements of an aging management program are described below.

To gain the necessary understanding of aging mechanisms, the renewal applicants will need to review the SSC design, fabrication, installation, testing (including performance and nondestructive testing), inservice inspection, operation, and maintenance to the extent necessary in performing the IPA.

Elements for timely mitigation of age-related degradation effects include inspection, surveillance, condition monitoring, trending, recordkeeping, replacement, refurbishment, and appropriate adjustments in the operating environment of the equipment in which the degradation occurs.

Adequate recordkeeping is needed on items such as transients, component failures, root causes, and repair and replacement of components. Records being generated now will be useful in providing the technical bases for continued safe operation of nuclear power plants.

Maintenance, refurbishment, replacement of parts and components, residual life assessment, and changes in operating environment are other elements useful for mitigating age-related degradation effects. Timely mitigation of age-related degradation through servicing, repair, refurbishment, or replacement of components is the prime function of an effective program. Management of age-related degradation comprises a collection of activities that to a large extent relate directly to physical maintenance of components.

Operating practices that reduce stresses on the equipment by adjustment of the operating environment are also important considerations to mitigating degradation effects. For example, if warranted, operations could be required in an environment with lower temperatures, reduced flux, or controlled humidity. However, in taking these actions, the potential consequences need to be evaluated and considered in order to guard against inadvertent adverse side effects on some other aspect of safety.

Six key issues raised by commenters related to established effective programs (EEPs), as that term was used in the proposed rule, and to integrated plant assessment for the management of age-related degradation during a renewed license term. These issues and the Commission's responses can be summarized as follows:

(1) Commenters stated that investigation and mitigation of age-related degradation should be restricted to only "significant" degradation. The Commission notes that § 54.3 of the rule provides definitions of the terms "aging mechanisms" and "age-related degradation." Draft Regulatory Guide DG–1009 contains staff-proposed guidelines as to aspects on which to focus for aging management, as a part of integrated plant assessment, without quantifying the degree and depth of age-related degradation. Inclusion of the terms "significant" or "potentially significant" age-related degradation would result in unnecessary definitions for all sorts of different degrees of degradations and in subjective evaluations and judgments. The state of the art and the existing knowledge base have not advanced sufficiently at this time to define precisely what constitutes "significant" age-related degradation. Therefore, the Commission did not include the term "significant degradation" in the rule.

(2) Commenters content that some of the ongoing programs contribute to aging. The Commission recognizes that a few of the current test programs may result in degradation in some components and structures. This technical test-related issue is being addressed as part of ongoing regulatory activities.

(3) Commenting on a related topic, a commenter stated that none of the NRC goals of the Nuclear Plant Aging Research (NPAR) program found their way into the requirements in the proposed rule. Though the NPAR goals are not included verbatim as requirements in the rule, the NPAR results were considered in developing the rule and associated regulatory guidance. Therefore, the Commission believes that a separate requirement for addressing the elements of the NPAR goals is unwarranted.

(4) Comments were received to the effect that the integrated plant assessment is too broad and that aging management is important not only for license renewal but for the current licensed terms as well. The Commission has revised the rule so that the integrated plant assessment is explicitly aimed at the management of age-related degradation unique to license renewal. The Commission recognizes that current aging management programs need not be reviewed except to the extent that the programs must address age-related degradation that occurs only during the period of extended operation after the term of the current license or whose effects are different in character or magnitude during the period of extended operation.

A major aspect of the license renewal rule and of a licensee's efforts to determine what actions are necessary to manage age-related degradation is a practical understanding of the necessary aspects of a program that is technically adequate to manage such degradation. As a result of comments related to the scope and contents of aging management programs, the rule was revised to eliminate reference to an established effective program. Instead, the term effective program (EP) is used. The Commission believes that some license activities or programs are adequate to manage age-related degradation will little or no modification. However, since the criteria by which the effectiveness of a program is judged are the same for programs already established as for new or planned programs, "established effective program" as a special term is not useful. The actions necessary, as part of the integrated plant assessment, include a review of the SSCs that are important to license renewal, identification of age-related degradation unique to license renewal, and an assessment of the applicants' proposals,

including any existing programs, to determine whether they are technically adequate to manage age-related degradation unique to license renewal. This review should identify what, if any, changes are necessary to ensure that age-related degradation unique to license renewal will be managed for all SSCs important to license renewal.

While the criteria in 10 CFR 54.21 are not specific with respect to evaluating the effectiveness of current licensee programs, there are numerous aspects of a technically adequate program that are dependent upon factors such as the specific type of structure or component and the applicable degradation mechanisms. Examples of aspects that may be included in an effective program are (a) scheduled inspection and surveillance, (b) condition monitoring, (c) functional testing that may include system or component testing, (d) nondestructive testing, (e) refurbishment and replacement programs, (f) root cause determination of degraded equipment performance or failures that specifically includes and addresses aging mechanisms, (g) corrective action program that evaluates frequency and cause of equipment failure, (h) use of vendor information to determine replacement and refurbishment intervals, (i) evaluation of surveillance intervals and operational experience to determine whether or not degradation is occurring and what further action is appropriate, and (j) residual life evaluation and reanalysis.

The Commission has a number of existing requirements that are directed toward detecting and managing age-related degradation in important safety systems. These include the assessment and feedback of operational experience through NRC regulations, bulletins, and generic letters; inservice inspection and tests; surveillance; and technical specification requirements. Commission initiatives such as nuclear plant aging research and license renewal rulemaking are directed toward providing additional assurance that age-related degradation is managed for the life of a nuclear power plant, including continued operation under a renewed license.

A related aspect of an effective program is its implementation and administrative control. The licensee's integrated assessment should include a review of administrative controls to ensure that the activities to be included as part of an effective program to mange age-related degradation in a license renewal application are identified and controlled so that changes are not made that could reduce the effectiveness of the program and so that any program modifications are adequately reviewed and approved.

(5) One commenter suggested that the equipment qualification (EQ) programs required by 10 CFR 50.49 should, by definition, be considered effective programs. While some components in this program are routinely replaced, such as those that are considered consumables, EQ programs cannot be considered to be effective programs without a determination that the age-related degradation applicable to the SSCs in the program will be adequately managed after the current operating term. Further, many components in EQ programs are pre-aged prior to testing. If the pre-aging is limited to 40 years, the subsequent qualification testing demonstrates qualification for 40 years and not throughout the renewal term. In some instances, it may be necessary to perform additional qualification testing. In some instances, pre-aging was not conducted for components included in EQ programs. It should not be assumed that these components are qualified beyond the 40 years of the initial operating license, and additional testing or analysis or both may be necessary to determine whether these components can be demonstrated to meet the requirements of 10 CFR 50.49 during the renewal term.

(6) A commenter wanted the rule to specifically state that a periodic replacement schedule is acceptable as an (established) effective program, and therefore components that are routinely replaced may be excluded from further review. The integrated plant assessment has been revised and, as discussed previously, a definition of age-related degradation unique to license renewal has been added to the final rule. As a result of these changes, a licensee may, after evaluation of an SSC and its associated age-related degradation mechanisms, conclude that an SSC is not subject to age-related degradation unique to license renewal. A routine replacement schedule may be a consideration in reaching such a conclusion. Similarly, if after evaluating an SSC and potential age-related degradation mechanisms, a licensee may determine that the SSC is subject to age-related degradation that is unique to the license renewal term. A routine replacement schedule may be a primary aspect of an effective program to manage age-related degradation. However, the Commission does not believe that it can make a generic determination at this time with respect to the acceptability of all periodic replacement schedules. Draft Regulatory Guide DG-1009 provides guidelines proposed by the staff for evaluating the effectiveness of replacement programs for managing aging structures and components after the initial operating term .

Several concerns were raised by commenters that the 10 CFR part 54 rule appeared to apply only at the time of license renewal and then the special programs initiated because of age-related degradation would become fixed in time with no further modification or improvement. This was never the Commission's intent. To clarify the Commission intent, three new paragraphs have been added to the part 54 rule: One paragraph in § 54.33 and two paragraphs in § 54.37.

Section 54.33 has been modified to state that the licensee may not make changes to programs or procedures approved by the staff to manage age-related degradation that decrease the effectiveness of these programs without prior Commission approval. Changes to these programs that do not decrease their effectiveness can be made without prior Commission approval.

Section 54.37 has been modified to add two new requirements. The first is that the annual update of the FSAR required by 10 CFR 50.71(e) is to include any SSCs that should be added to or deleted from the programs to manage age-related degradation. Thus, the list of SSCs important to license renewal must be updated at lest annually. Second, if the licensee makes changes to the age-related degradation management programs that do not require prior Commission approval (in accordance with the new provision of § 54.33), then at least annually the licensee must submit the changes to the Commission. This provision is similar to the requirement to notify the Commission of programmatic changes that is presently contained in the Commission regulations governing the emergency preparedness, physical security, and quality assurance programs. However, because the degradation management programs are a principal focus of the license renewal rule, the Commission desires to be notified of changes in these programs; therefore, a separate report of program changes is necessary, and a reporting requirement has been added to the rule.

(vi) Scope of Subjects for Management of Time-Related Changes

In the proposed rule published on July 17, 1990, the Commission particularly solicited comments on three specific questions in Section V. Questions (55 FR 29055).

The first two questions pertained to the scope of requirements with respect to management of age-related degradation and possible other time-related changes. The third question pertained to certain technical issues with respect to which requirements have been established, but some work on implementation remains to be completed.

(1) Question 1 reads as follows:

Are there any specific equipment items, equipment categories, or topics that should be rule be excluded from review under the age-related degradation management program requirements of the proposed rule? If so, what equipment or topics should be excluded and what would be the justification for such exclusion?

Several comments addressing Question 1 were received. The scope of the comments ranged from including in the review only items that are specifically focused on age-related degradation to not excluding any equipment or topics.

One commenter stated that all programmatic issues that do not involve age-related degradation, such as quality assurance, technical qualifications, and management competence, should be excluded from review. The Commission agrees that programmatic issues that do not involve age-related degradation should not be rereviewed in connection with a license renewal application. Therefore, the final rule does not require a finding of continuing licensee compliance with programmatic requirements such as emergency preparedness, physical security, and quality assurance. However, if a licensee chooses to rely upon a programmatic activity or portion thereof to demonstrate that it has an effective program to address age-related degradation unique to license renewal, the adequacy of the referenced portion of the programmatic activity could be reviewed by the NRC to determine whether it is acceptable to address this degradation.

Commenters also stated that anything that is important to license renewal should not be excluded from review. Several of these commenters did feel, however, that a more narrow definition of the integrated plant assessment (IPA) process should be provided. Another commenter stated that everything ages and should be reviewed and specifically included design, construction, operational history, QA/QC, waste management, and human factors considerations. With regard to the first point, the NRC agrees that the IPA should be a tiering process. The current version of the rule supports this approach. The specific issues related to the IPA are discussed in greater detail in section IV.e.(iii) of this document and will not be repeated here.

With regard to the second point, the staff agrees that many things change with time and must be dealt with on a continuing basis, whether it be in the first 40 years of operation or during the renewal term. Changes in the activities specifically listed by the commenter that result from age-related degradation that is not unique to license renewal would be dealt with as they arose, and it is not necessary to readdress the issues specifically or license renewal.

No additional topics or equipment have been specifically excluded from the rule as a result of the comments received.

(2) Question 2 reads as follows:

Should any equipment items, equipment categories, or topics (including topics related to the site, such as nearby hazards or demography) that may involve changes over time be added to the review requirements under the proposed rule? If so, what equipment items, equipment categories, or topics should be added and what would be the justification for such addition?

The NRC received comments addressing Question 2. The scope of these comments included a request for the inclusion of specific siting topics, emergency planning issues, and a plant-specific site area cancer study. A more detailed discussion of the comments and issues raised follows.

One commenter stated that, although no equipment should be added, several topics should be considered for addition and specifically recommended biofouling and geological setting (erosion or sediment deposition, new or reactivated faults, volcanic activity). Biofouling and erosion are covered in the regulatory guide and standard review plan being developed to support the rule. New or reactivated faults, volcanic activity, and sediment deposition are examples of the types of issues that would normally be addressed as a part of the ongoing regulatory process described in Section IV.b above and therefore need not be considered as part of the renewal review. For example, when the eruption of Mount Saint Helens occurred, questions were raised concerning the level of safety at potentially affected nuclear power plants such as Trojan. Immediate NRC attention was directed to these plants to investigate potential issues such as excessive silting. When a seismic fault was discovered near Diablo Canyon, the NRC evaluated the potential effects of that fault on the operation of Diablo Canyon. Each of these efforts are examples of actions initiated as part of the current regulatory programs that include significant environmental issues. Nevertheless, it is possible that some issues could be critical only to the operation during the renewal license term and therefore would not be addressed in ongoing regulatory processes directed at ensuring adequate protection during the initial license term. These issues could be addressed for renewals on a case-by-case basis under revised 10 CFR 2.758.

One commenter opposed the removal of emergency preparedness planning from license renewal consideration, while another stated that all site topics (which are essentially related to emergency preparedness) should be excluded from the license renewal proceeding because they do not contain SSCs subject to age-related degradation. The issues related to the exclusion of emergency preparedness are discussed in greater detail in Section IV.s of this document.

One commenter suggested the following topics should be considered: population changes, transportation and traffic factors, location of nearby hazards, global warming, political and sociological changes and instabilities, external technological advances, national economic conditions, and understanding of the health effects of environmental pollutants. Effects of population changes, transportation and traffic factors, and location of nearby hazards are topics that can be addressed through a variety of processes. Commission regulations require that emergency preparedness plans be updated to account for changes in population or other factors around a plant site. Further, the Commission also requires, through the annual FSAR updating process, that licensees update existing analyses of nearby hazards to the plant. In addition, the Commission has a resident inspector at each reactor site. The resident inspector has knowledge of and access to the local media and therefore can be informed of potential changes in the environment surrounding the site that could affect plant safety. However, the Commission acknowledges that the existing processes in this area are not as disciplined as other areas of regulatory oversight in some of the areas mentioned by the commenter. The Commission is in the process of revising the guidance and inspection activities to implement a more disciplined process that would provide additional assurance that plants continue to operate within their current licensing basis. The Commission is considering global warming, national and local social and economic conditions, and environmental

pollutants where pertinent to the environmental protection aspects of license renewal that are required to be discussed under the requirements of 10 CFR part 51 to support license renewal.

One commenter stated that, despite a recently released National Cancer Institute study on cancer around nuclear power facilities (which basically concluded that the facilities were not a significant contributor to local cancer deaths), a site-specific study concerning deaths in the community due to cancer must be conducted as part of license renewal. The commenter goes on to state that a study done at the 40-year point should provide valuable data. The staff has concluded that there appears to be no justification to require a site-specific study at every site for license renewal.

In summary, the Commission did not add any equipment items, equipment categories, or topics to the rule as a result of the comments received.

(3) Question 3 reads as follows:

> For certain limited technical issues with respect to which requirements have been established, some work on implementation and compliance remains to be completed. Unimplemented USIs, such as Station Blackout and Anticipated Transients Without Scram, GSIs, and the "lessons learned" issues of the Systematic Evaluation Program are examples. Is there a basis for removal of such issues at this time from the provision of § 54.29 of the proposed rule that the findings under 10 CFR 50.57(a) need not be made in order to issue a renewed license? If so, what would that basis be?

The public responses and comments that addressed this question covered a wide spectrum of opinions.

One commenter concluded that work on all issues that pertain to reactor operation should be completed and implemented before a renewed license is issued and that these issues should be included in the license renewal rule. Another commenter presented a different view and noted that many of the issues identified in the proposed rule are already being reviewed by the NRC and that inclusion of these issues in the license renewal rule was contrary to the stated goal of limiting renewal activities to age-related degradation. Other comments addressed the need to reassess any cost-benefit analysis that resulted in not requiring a backfit analysis based on an assumption that plant operation would be limited to 40 years.

Based upon the comments summarized above and other comments related to these issues, and upon the staff's review of the technical aspects, resolution, and implementation status of these issues, the Commission concludes that the existing processes that are currently addressing these unresolved and/or unimplemented GSIs, USIs, and the 22 SEP lessons learned issues are sufficient. These regulatory processes, which are described and discussed in sections IV.a and b of this document and in NUREG–1412, have proved effective in resolving similar issues in the past, and there is no reason to believe that they will not adequately resolve these issues in the future. Should any new GSIs or USIs be identified in the future, these same regulatory processes would also provide assurance that concerns with respect to adequate protection are addressed in a timely manner. In addition, none of the currently identified unresolved or unimplemented USIs, GSIs, and SEP lessons learned issues is known to involve age-related degradation concerns uniquely relevant to the extended period of operation under a renewed operating license. There is no necessary and unique connection between these issues and license renewal. Should any GSIs, or USIs be identified in the future that do, in fact, implicate age-related degradation unique to license renewal, the applicant would be required to address the matter and the NRC would be required to make a finding with respect to that matter under the age-related degradation requirements of 10 CFR part 54. For these reasons, the Commission concludes that the NRC's renewal decision should not be based, either in whole or part, upon the resolution and implementation of GSIs, USIs, or SEP lessons learned issues. Therefore, § 54.29 does not require separate findings with respect to any GSIs, USIs, or the SEP lessons learned issues as a prerequisite to issuing a renewed license under 10 CFR part 54.

The staff has reviewed resolved GSIs for which new requirements were not required to be backfitted to determine whether the additional years of plant operation would result in a different conclusion. This review is discussed in Section IV.b.(iii) of this document.

f. Renewal Finding and Hearing Scope

In view of the principles of license renewal discussed above, the Commission concludes that the decision to issue a renewed operating license need not involve a licensing review of the adequacy of or compliance with a plant's licensing basis. Rather, the NRC's decision should normally be limited to whether actions have been identified and have been or will be taken to address age-related degradation unique to license renewal and whether the relevant National Environmental Policy Act (NEPA) requirements, as set forth in 10 CFR part 51, have been met.

The Commission's conclusion that the decision whether to issue a renewed license will be limited to consideration of age-related degradation unique to license renewal and compliance with NEPA is consistent with the AEA. Section 103.c of the AEA indicates that licenses for nuclear power plants may be issued and, upon expiration, may be renewed.

The AEA does not provide guidance with respect to the nature and scope of the "not inimical" standard (or its somewhat more familiar statutory equivalent in section 182.a—the "adequate protection" standard) as applied to renewals. It is the Commission's view that the AEA does not mandate the same scope of review for both initial and renewed licenses.

The 40-year license term in section 103.c, which necessitates license renewal, was adopted for antitrust and financial reasons rather than safety or common defense and security reasons. (This is further discussed in section IV.g.) Moreover, unlike section 103 licenses, the Congress imposed no statutory limitation on the term of section 104.b licenses. Since there is no safety difference between the two types of licenses, this suggests strongly that Congress saw no special safety or common defense and security significance to the renewing of a license that would require a statutorily mandated scope of review similar to that for issuance of an initial license. Second, as the courts have noted repeatedly, the NRC has been given broad discretion in the AEA with respect to structuring its regulatory proceedings. *See Union of Concerned Scientists* v. *NRC*, 735 F.2d 1437, 1446 (D.C. Cir. 1984), *Carstens* v. *NRC*, 742 F.2d 1546 (D.C. Cir. 1984). The failure of Congress to provide any criteria in the AEA explaining the bounds of the "not inimical" standard for renewals suggests that Congress intended the NRC to have substantial discretion in tailoring the scope of its licensing review to the circumstance and type of regulatory action.

Section 50.57 does not distinguish between the issuance of initial versus renewed operating licenses. However, the absence of such a distinction from § 50.57 cannot be reasonably viewed as indicative of a prior Commission view that the statutory "not inimical" standard mandates an identical scope of review in both initial and renewal licensing. Prior to 1960, the Commission did not have any section of findings for

issuance of operating licenses similar to § 50.57. Rather, there was simply a provision that permitted conversion of construction permits to operating licenses (now 10 CFR 50.56). Section 50.57 was adopted for:

> Procedures and criteria for the issuance of provisional operating licenses in order to permit orderly and expeditious transition from a construction permit to an operating license where (a) the evidence will not support a finding of completion of construction in compliance with the terms and conditions of the construction permit, or (b) there are involved features, characteristics, or components of a proposed facility as to which it appears desirable to obtain actual or further operating experience before issuance of an operating license for the full term, up to forty years, requested by the applicant. 25 FR 8712 (September 9, 1960); *c.f.* 25 FR 1225 (February 11, 1960) (proposed rule).

Clearly, the Commission had in mind initial licensing and did not consider the issue of the scope of the statutory finding with respect to issuance of renewed licenses.

In sum, the Commission's authority to issue a renewed license is governed by the "not inimical" standard of section 103.d. However, the Commission concludes that under the AEA it may determine a scope of review in a license renewal proceeding that is more limited than the scope of review for initial licensing, based upon two aspects of the NRC's regulatory process. The first is the scope and effectiveness of the NRC's past and ongoing regulation of operating reactors to ensure that operation throughout the initial license term will not be inimical to public health and safety by modifying plants' licensing bases when necessary in light of new information and issues and ensuring compliance with licensing bases. The second is the NRC's regulatory actions to ensure that new circumstances are not inimical to the common defense and security. Taking these factors into account, the Commission concludes that the discipline of a formal license renewal review and finding is not needed except for issues that, because they are relevant to adequate protection only for extended operation beyond the initial license term, are not currently considering in ongoing regulatory processes. Only one issue falls in this category that would be generally applicable to all plants—age-related degradation unique to license renewal.

The final rule is carefully structured to establish a regulatory process that is precisely directed at age-related degradation unique to license renewal. Sections 54.19, 54.21, 54.22, and 54.23, which specify the information that must be submitted in a renewal application, require only information regarding administrative matters, age-related degradation unique to license renewal, technical specification changes, and environmental impact The rule does not require submission of information relating to the adequacy of, or compliance with, the current licensing basis. Section 54.29, which defines the standard for issuance of a renewed license, does not require a finding regarding the adequacy of, or compliance with, the plant's licensing basis. The section clearly sets forth the findings that must be made in order to issue a renewed license. The Commission's procedure for rule challenges, 10 CFR 2.758, has been amended to permit certain other issues unique to license renewal to be addressed formally on a case-by-case basis.

Hearings on individual license renewal proceedings with some exceptions will be limited to contentions questioning the adequacy of the Commission's findings made pursuant to § 54.29. Section 189.a, the only potentially applicable provision in the AEA relating to hearings, does not by its terms apply to renewals of licenses although it clearly applies to the initial granting or amendment of licenses. This is not surprising, given that the Congress did not require any renewals and apparently contemplated unlimited license terms for a whole category of nuclear power plants—those licensed under section 104.b. Therefore, the holding of any hearing in connection with a license renewal is a matter of Commission discretion. Nevertheless, the Commission has decided that hearings should be held, if requested. Only contentions that question (1) whether the applicant has properly compiled with the 10 CFR part 54 requirements and thereby adequately addressed age-related degradation unique to license renewal, or (2) whether the applicable requirements of 10 CFR part 51 relating to environmental protection under NEPA have been satisfied will normally be admitted to a formal hearing.

However, the final rule amends § 2.758 to also make clear that challenges to the 10 CFR part 54 rule could be made in the formal hearing so that certain other issues claimed to be necessary to ensure adequate protection only during the renewal term could be admitted in a formal hearing on a case-by-case basis, but only at the direction of the Commission itself. Issues that have relevance and could be completely resolved during the term of operation under the existing operating license as well as license renewal would not be admissible under the new provision of § 2.758 because there is no unique relevance of the issue to the renewal term. In addition, hypothetical or speculative projections that a situation could occur during the renewal term would not be a basis for admission of an issue under the new provisions of § 2.758. On the other hand, if an intervenor could make a *prima facie* demonstration that an issue or circumstance would occur during the renewal term and not during the existing operating license term, and that its resolution is necessary to ensure adequate protection, the Commission would admit that issue for resolution in the formal renewal hearing, as provided, in § 54.29(c).

g. Nature of License

An issue that the Commission identified early in this rulemaking is whether extended operation (i.e., operation beyond that approved in the current license) could be accomplished either through issuing a "renewed" operating license or by amending the expiration date in the current license to permit operation beyond 40 years.

After reviewing the AEA, the relevant legislative history, and the licensing regimes for other Federal agencies, including the Federal Communications Commission, the Commission concludes that extended operation of nuclear power plants licensed under section 103 of the AEA must be accomplished by issuance of renewed operating licenses. The Commission further concludes that extended operation of nuclear power plants licensed under section 104 of the AEA [2] should also be accomplished through issuance of renewed operating licenses.

Section 103.c of the AEA states:

> Each (Section 103) license shall be issued for a specified period, as determined by the Commission, depending on the type of activity to be licensed, but not exceeding forty years, and may be renewed upon expiration of such period.

Based upon the explicit statutory prohibition of license terms in excess of 40 years, together with the statutory provision for renewal, the Commission concludes that the term of a section 103

[2] Until 1970, nuclear power plants were licensed as "research and development facilities" under section 104.b of the AEA, since the Atomic Energy Commission (AEC) did not make a "practical value" finding for any nuclear power design. Such a finding was a necessary prerequisite for issuing an operating license under the originally enacted version of section 103. In 1970, the AEA was amended to remove the "practical value" finding and to require that all commercial nuclear power plants whose construction permits were filed after 1970 be licensed under section 103.

license may not be extended beyond 40 years by amendment. One commenter argues that Section 103.c "only prohibits issuing a license for more than forty years," but does not prohibit amending the license once issued to extend the term beyond 40 years. The Commission does not believe this is a fair reading of the statute. Under the commenter's view, the NRC could issue a license with a 40-year term limitation and a day later amend the license to specify a 100-year term. Clearly, this is not what Congress intended. The Commission also rejects the view that the 40-year limitation in section 103.c was only intended to prohibit open-ended or perpetual licenses. If Congress had only intended to prohibit perpetual licenses, it would have been sufficient to state in section 103.c that licenses "shall be issued for a specified period." That Congress included a 40-year limit in section 103.c as an additional limiting clause indicates that the opposite was true, *viz.*, that Congress intended a license to have a life of no more than 40 years. The commenter's view also fails to explain why Congress chose to speak of a license as being "renewed upon (its) expiration," rather than simply indicating that licenses may subsequently be amended to extend the term of the license. Most importantly, the legislative history belies the claim that the 40-year term was adopted merely to limit perpetual licenses. In fact, the limit was a compromise between the efforts of the Justice Department and electric cooperatives, who championed a 20-year limit on the basis of antitrust concerns, and the view of the utility industries that a longer period was necessary to ensure full amortization of a nuclear power plant. See, e.g., Hearings Before the Joint Comm. on Atomic Energy, 83rd Cong., 2nd Sess. (1954) at 711 (statement of Assistant Attorney General J. Lee Rankin), 444 (testimony of Jerry Voorhis, Executive Director, Cooperative League of the U.S.), 306–307 (testimony of Clyde T. Ellis, Executive Manager, National Rural Electric Cooperative Association), 227 (statement of E.H. Dixon, Chairman, Atomic Power Committee, Edison Electric Institute), 711 (colloquy of Rep. Holifield).

A law firm representing a group of utilities argues that license renewal should be accomplished by amendment because Price-Anderson Act coverage may not extend to renewed licenses. For the reasons set forth in section IV.x, the Commission concludes that renewed licenses are afforded Price-Anderson Act coverage throughout the renewal term.

Section 104.b does not contain any limit on the term of operating licenses for nuclear power plants licensed as research and development facilities, although the Commission as a matter of practice limited section 104.b operating licenses to 40 years. Despite any explicit prohibition on the term of section 104.b licenses, the Commission has decided that extended operation of nuclear power plants licensed under section 104.b should also be accomplished through the issuance of renewed licenses. From the point of view of regulatory stability and consistency, it is simpler to have one process and one set of regulations governing license renewal for all nuclear power plants. For all practical purposes, there is little technical distinction between the class of nuclear power plants licensed under section 103 and the class licensed under section 104.b. Only the 1970 change in the AEA separates these two classes of plants. Accordingly, 10 CFR part 54 makes no distinction between section 103 and section 104.b nuclear power plants. Nonpower reactors, including research and test reactors, on the other hand, differ as a class from nuclear power plants; they are not covered by 10 CFR part 54.

In sum, the Commission concludes that extended operation of section 103 and section 104.b nuclear power plants beyond the term of their current operating licenses should be achieved through issuance of renewed licenses, rather than through amendment of the existing operating license's specified term. The Commission wishes to emphasize that the form of license with respect to extended operation does *not* affect the substantive issues raised by extended operation, *viz.*, whether and under what conditions and restrictions should a nuclear power plant be allowed to operate beyond the term of its existing operating license. Whether extended life is accomplished by amendment of the existing operating license or by issuance of a new license, the standard of Sections 103.d and 104 of the AEA must be met, *viz.* that extended operation will not be inimical to the public health and safety and common defense and security. Additionally, as discussed in the following section, the licensee-applicant for a renewed license is entitled to favorable treatment under the Timely Renewal Doctrine of the Administrative Procedure Act and 10 CFR 2.109. This treatment may not be available to an applicant for a license amendment.

h. Latest Date for Filing Renewal Application, the Timely Renewal Doctrine, and Sufficiency of Renewal Application

Section 9(b) of the Administrative Procedure Act (APA), referred to as the "timely renewal doctrine," provides that, if a licensee of an activity of a continuing nature makes a "timely and sufficient" application for renewal in accordance with agency rules, the existing license does not expire until the application has been finally determined by the agency. The timely renewal doctrine is embodied in the Commission's regulations at 10 CFR 2.109:

> If, at least thirty (30) days prior to the expiration of an existing license authorizing any activity of a continuing nature, a licensee files an application for a renewal or for a new license for the activity so authorized, the existing license will not be deemed to have expired until the application has been finally determined.

The Commission believes that the 30-day deadline for timely renewal currently contained in § 2.109 would not provide the NRC a reasonable time to review an application for a renewed operating license for a nuclear power plant. Because the review of a renewal application will involve a review of many complex technical issues, the NRC estimates that the technical review would take approximately 2 years. Any necessary hearing could likely add an additional year or more. Therefore, in the proposed rule, the Commission modified § 2.109 to require that nuclear power plant operating license renewal applications be submitted at least 3 years prior to their expiration in order to take advantage of the timely renewal doctrine.

No specific comment was received concerning the proposal to add a 3-year provision for the timely renewal provision for license renewal. The current regulations require licensees to submit decommissioning plans and related financial assurance information on or about 5 years prior to the expiration of their operating licenses. The Commission has concluded that, for consistency, the deadline for the submittal of a license renewal application should be 5 years prior to the expiration of the current operating license. The timely renewal provisions of § 2.109 now reflect the decision that a 5-year time limit is more appropriate.

Renewal applications should be essentially complete and sufficient when filed. Section 9(b) of the APA confers the benefit of "timely renewal" to those who make a timely filing of a "sufficient

application." Although the current wording of the Commission's parallel rule in § 2.109 only refers to the timely filing of an "application for a renewal or for a new license * * *" Commission practice has been to ensure that sufficient applications have been submitted. In the proposed rule the Commission added § 2.109(b) to incorporate the APA's provision requiring the submittal of a sufficient application. Other considerations lead the Commission to incorporate the specific language into § 2.109(b). The Commission discourages the filing of pro-forma renewal applications that would be filed simply for the sake of meeting the 10 CFR 2.109(b) deadline. However, a determination that an application is sufficient for purposes of timely renewal would not be litigable. Sufficiency is essentially a matter for the staff to determine based on the required contents of an application established in §§ 54.19, 54.21, 54.22, and 54.23. It is enough that the licensee submits the required reports, analyses, and other documents required in such application. That such documents may require further supplementation or review is of no consequence to continued operation under timely renewal.

In December 1990, the NRC issued Draft Regulatory Guide DG–1009, "Standard Format and Content of Technical Information for Applications to Renew Nuclear Power Plant Operating Licenses," and a draft standard review plan for license renewal (SRP–LR) (NUREG–1299) (55 FR 50065). These documents provide more specific guidance for preparing a renewal application and for judging whether the criterion of a sufficient application is met.

One commenter was concerned about the potential for abuse of the timely renewal provisions of the regulations. The Commission has concluded that the specific language of §§ 54.19, 54.21, 54.22, and 54.23 in combination with the specific guidance published in regulatory guidance documents should preclude the concerns raised regarding the potential for abuse of the Commission's timely renewal provisions.

One commenter noted that there would be substantial adverse impacts if the NRC finds that a renewal application is insufficient after the term of the current licensed period has expired. The commenter urged the NRC to make a finding of application sufficiency at least 6 months before the existing license term expires. The Commission agrees that licensees who have filed a renewal application should be given timely notice as to whether their application is sufficient. However, no specific provision need be made in the final rule. The draft SRP–LR contains proposed staff guidance for notifying renewal applicants in a timely manner that a particular application is or is not sufficient.

i. Earliest Date for Filing Applications

Neither the AEA nor the Commission's current regulations set a limit on how long before expiration of the operating license a renewal application may be filed. The Commission has decided to impose such a limit to ensure that substantial operating experience is accumulated by a licensee before it submits a renewal application.

In the proposed rule, the Commission suggested a 20-year time limit for filing renewal applications. Several commenters argued that 20 years would not be a sufficient period of time to accumulate an adequate body of information and experience to support the agency's consideration of a renewal application. Other commenters stated that information gained from operating experience after the renewal license is granted would not be considered by the NRC. One commenter also argued that even after considering the 10-year lead time deemed necessary by utilities to plan for alternative generating capacity and a 3-year period for NRC review of a renewal application, the proposed 20-year limit is too long. The commenter proposed that a 15-year limit should be a compromise acceptable to the industry. Another commenter stated that a 20-year time limit would be an illegal expansion of the initial licensing period, in volation of the AEA, but the commenter did not explain the legal basis for this conclusion. The commenter suggested that a 5-year time limit would be reasonable.

While the Commission accepts the premise that operating experience is important, it rejects the suggestion that 20 years of operational and regulatory experience with a particular plant is an insufficient period in which to accumulate information on plant performance. A nuclear power plant will undergo a significant number of fuel cycles over 20 years, and plant and utility personnel will have a substantial number of hours of operational experience with every system, structure, and component. The NRC believes that the history of operation over the minimum 20-year period provides a licensee with substantial amounts of information and would disclose any plant-specific concerns with regard to age-related degradation.

Commenters incorrectly suggest that new information about plant systems and components as well as age-related degradation concerns discovered after the renewed license is issued would not be considered by the NRC or would not be factored into a plant's programs. The CLB of a plant will continue to evolve throughout the term of the renewed license to address the effects of age-related degradation as well as any other operational concern that arises. The licensee must continue to ensure that the plant is being operated safely and in conformance with its licensing basis. The NRC's regulatory oversight activities will also assess any new information on age-related degradation or plant operation issues and take whatever regulatory action is appropriate for ensuring the protection of the public health and safety. The commenters ignore the fact that both renewal applicants and the NRC will have the benefit of the operational experience from the nuclear industry and are not limited to information developed solely by the utility seeking a renewed license. For example, there are now approximately 1400 reactor years of operating experience in the U.S. nuclear power industry. This experience will increase each year. All of this experience would be considered by the NRC in evaluating the adequacy of licensee-proposed activities to address age-related degradation in connection with a renewal application.

The Commission disagrees with a commenter's proposal that a 5-year, or even a 15-year, time limit for filing renewal applications will be adequate. In proposing the earliest date of application, the Commission considered the time necessary for utilities to plan for replacement of retired nuclear plants. Industry studies estimate that the lead time to build a new electric generation plant is 10 to 12 years for fossil fuels and 12 to 14 years for nuclear or other new technologies. When the staff review is factored into the decision process, the Commission concludes that applications 18 to 20 years before expiration of a licenses are not unreasonable. For these reasons, the final rule permits the application for a renewed license to be filed 20 years before expiration of an existing operating license.

j. Withdrawal of Application

A new § 54.34 has been proposed by a commenter to permit an applicant for a renewed operating license to withdraw its application at any time during the

proceeding. The Commission does not believe that such a provision is necessary in part 54. Currently, applicants for any NRC license, including a nuclear power plant operating license under 10 CFR part 50, may withdraw their applications at any time and for any reason (subject to payment of applicable fees). This opportunity is provided despite the fact that there are no explicit provisions in the Commission's regulations permitting withdrawal of applications. The Commission will not treat applicants for part 54 renewed operating licenses any differently with respect to withdrawal. Accordingly, the Commission declines to adopt this proposal.

k. Renewal Term

The AEA permits the Commission to issue section 103 operating licenses with terms up to 40 years and imposes no limit on section 104.b operating licenses. Nonetheless, the Commission has decided to limit the maximum period of extended operation under the renewed license to 20 years beyond the expiration of the existing (previous) operating license. The Commission believes that sufficient technical understanding of age-related degradation exists to enable nuclear power plant licensees to develop activities for ensuring safe operation of their plants for an additional 20 years beyond expiration of existing licenses. However, a 20-year limit on extended operation will, in the Commission's judgment, provide a useful opportunity to validate and reassess, if necessary, the current understanding of age-related degradation effects. As one commenter suggests, the Commission may revisit this issue in the future as experience with licensee performance in managing age-related degradation during the renewal term is gained. If the Commission has sufficient confidence in the adequacy of licensee programs to detect and resolve in a timely manner any unforeseen age-related degradation, the 20-year limit may be removed. However, reappraisal of the use of supersession licensing will be required at that time. The Commission therefore rejects a commenter's suggestion that the renewed licenses should be granted for terms in excess of 20 years.

There is no minimum term for a renewed license that may be requested by an applicant. The primary reason for such a limitation would be to discourage repetitive renewal periods for relatively short periods, which may consume an unwarranted amount of staff resources to review, as well as have the potential for abuse. Upon consideration, the Commission believes that the renewal applicant's need for longer-term planning of its electric power generating capacity and the cost of preparing and supporting each renewal application will ordinarily serve to motivate the applicant to seek longer renewal terms.

l. Effective Date of Renewed License

Two alternatives were identified early by the Commission with respect to the effective date of a renewed license: (1) A "tack-on" license that takes effect at the expiration of the current operating license, and (2) a "supersession" license that takes effect immediately upon NRC approval of the renewal application. The tack-on approach is initially attractive, since, in general, renewals of licenses take effect upon expiration of the existing license. Moreover, it may be argued that "tack-on" licensing was contemplated by Congress, since section 103.c of the AEA states that licenses "may be renewed upon the expiration of (the specified license term)." However, as a consequence of accommodating the utilities' asserted need for an early agency decision on renewal applications, a potentially long period may occur between the agency decision to approve a renewal application and the expiration date of the original operating license. If issuance of the renewed license were kept in abeyance for such an extended period, there would be a great deal of uncertainty in terms of the administrative finality of the renewal decision. As for the "upon expiration" language of section 103.c, the Commission does not believe that Congress intended by that language to preclude supersession licenses. Since section 103.c provides for licenses to be issued for a "specified period," it would be natural to speak of renewal following the "expiration of such period." On balance, the Commission has determined that a renewed license should be in the form of a supersession of the existing operating license.

One commenter suggested that the supersession approach to licensing may lead to "logistical issues" such as duplicate submittals since there will be co-existing dockets for the existing operating license and the renewal application. The Commission recognized that this would be an issue and had included a provision in the proposed rule that fixed the CLB for the duration of the renewal application to avoid these types of coordination problems. The final rule does not freeze the CLB; instead, § 54.21(e) requires renewal applicants to update their renewal application to reflect changes to CLB information, which materially affects the contents of the renewal application. This requirement will ensure that the licensing basis for the existing operating license remains current and is reflected in a timely manner in the renewal license application.

Two commenters suggested that the proposed rule be modified to make clear that a supersession license is issued only after the renewal application has been finally determined and all administrative and judicial appeals are exhausted. In their view, this modification is necessary because § 54.31 stated that the initial operating license is "entirely ineffective and superseded" upon issuance of the renewed license and may be interpreted to leave a facility without an effective license if its renewed license were set aside upon appeal. The Commission never intended § 54.31(c) to suggest that if a renewed license were somehow set aside upon appeal, the licensee could not continue operating under its previous operating license. The Commission is unaware of any instance involving supersession licensing where such a result occurred. Even if the concern is valid, the commenters' proposed solution is undesirable. NRC's nuclear power plant licensing actions generally are immediately effective, see 10 CFR 2.764. Neither the AEA, the Administrative Procedure Act, nor any precept of administrative law compels the NRC to await exhaustion of judicial appeals before it may issue a license. In order to preclude any future misunderstandings in this regard, § 54.31(c) has been modified by deleting the words, "entirely ineffective," and adding a sentence clarifying that the prior existing operating license shall be reinstated if the renewed license is subsequently set aside, unless the term of the prior operating license is expired and the renewal application was not filed in a timely manner.

m. Subsequent Renewals

Section 54.31(d) allows a renewed license to be further renewed upon expiration of the renewal term. One commenter suggests that an additional sentence be added to make clear that a subsequent renewal application may be submitted prior to the expiration of the previous renewal term. The Commission agrees that a subsequent renewal application may be submitted prior to expiration of the previous renewal term (under § 54.17(c), up to 20 years prior to that expiration). However, § 54.31(d) makes clear that a renewed license may be further renewed in accordance with "applicable requirements," which would include the provisions of part 54 (unless the Commission subsequently adopts special provisions applicable only to

subsequent renewals). Under this circumstance, a sentence in § 54.17(d) explicitly addressing the subject may inadvertently give the impression that the "applicable requirements" language was intended to have an entirely different effect. Accordingly, the Commission declines to adopt the commenter's proposed addition.

Another commenter observed that the concept of subsequent renewals is not developed in the supporting documentation for the proposed rule. The Commission does not believe that further exposition of this concept is necessary at this time. If experience with renewals discloses a previously unknown aging or other time-dependent issue, appropriate regulatory action, including modifying the requirements for obtaining subsequent renewals, can be implemented. Further discussions of the concept are not likely to be fruitful at this time.

n. Content of Application—Technical Information

The rule identifies specific requirements for the content of a renewal application. Unless updated, the information submitted in the previous operating license docket continues to apply and is incorporated into both the renewal license application and the renewed license docket under the provisions of §§ 54.19 and 54.33. In addition, the rule (§ 54.21) requires the submittal of the following technical information:

(1) An integrated plant assessment (IPA) that demonstrates, through a step-by-step process specified in the rule (§ 54.21(a)), that the facility's systems, structures, and components important to license renewal have been identified and evaluated, and that age-related degradation unique to license renewal will be managed to ensure that the facility's licensing basis will be maintained during the renewal term. The IPA is discussed above in section IV.e.(iii).

(2) Identification and justification of any changes in the CLB necessary to address age-related degradation unique to license renewal of SSCs important to license renewal. This requirement is discussed above in section IV.d.(ii).

(3) A listing of all exemptions and reliefs granted and in effect under the existing license in the license renewal application. Any exemption or relief that was granted on the basis of remaining plant life or that otherwise relates to SSCs subject to age-related degradation unique to license renewal must be rejustified before it will be granted for the renewal term. A commenter on the proposed rule argued that the staff does not need a complete list of all exemptions and reliefs in effect but only needs a list of those exemptions that contain time-dependent functions. The Commission does not agree. A complete list of all exemptions and reliefs granted and in effect is necessary for several reasons. First, it allows the Commission to make an independent assessment that all exemptions and reliefs have been evaluated as part of the license renewal review process. Second, the list is a summary of the instances in the licensing basis for the renewal term where the staff has determined that strict compliance with existing regulatory requirements is not needed to ensure that public health and safety is adequately protected.

(4) A description of any plant modifications or administrative procedure changes required for effective management of age-related degradation unique to license renewal, as justified by the assessments under paragraphs (2) and (3) of this section.

(5) Changes during review of the renewal application (§ 54.21(e)).

o. Environmental Information

A license renewal applicant is required to submit an environmental report, or supplement to its existing environmental report, addressing the environmental consequences of the renewal sought.

In a separate rulemaking, the NRC is developing changes to its environmental protection rules (10 CFR part 51) to assess the environmental impacts that may result from the renewal of an operating license and to codify any generic findings so that they may be adopted in future individual plant license renewal environmental reviews. The proposed rule was published in the Federal Register on September 17, 1991 (56 FR 47016). A generic environmental impact statement (GEIS) was prepared as the basic informational and analytical document supporting the proposed rule change. The GEIS scope includes known environmental issues that may be of reasonable concern in renewing the operating license of any of the current population of nuclear power plants. The scope reflects activities, including potential plant refurbishment associated with license renewal, an additional 20 years of operation, and possible changes in the environmental setting of the plants. The GEIS study attempts to bound the full range of plants and sites in order that a generic conclusion will be applicable to as large a number of plants as possible. Guidance on the submission of environmental information and analyses by applicants and on review criteria for the staff is also being prepared. In developing the GEIS, the NRC has followed the general requirements specified in 10 CFR part 51.

p. Backfit Considerations

In the proposed rule, the Commission indicated that a special provision addressing backfitting requirements during the review of a renewed license application was not necessary. Instead, the Commission discussed how backfitting would be controlled during the renewal review. The Commission also indicated that once a renewed license was issued, the normal backfitting requirements of 10 CFR 50.109 would apply to NRC-imposed changes to the renewed license's current licensing basis.

Most of the utility commenters were dissatisfied with the Commission's proposal not to include a specific provision in 10 CFR part 54 addressing the imposition of "backfits" during the review of the renewed license application. In general, these industry commenters indicate that, while they agree with the discussion in the proposed rule describing how the backfit rule would apply in the context of license renewal, the Preamble to the proposed rule was not legally binding on the Commission and staff and only a rule would be binding and enforceable against the staff. A commenter stated that backfit analyses are not appropriate to staff-imposed changes needed to address age-related degradation where degradation is significant and the equipment is important to license renewal and not covered by an existing effective program. In the commenter's view, however, the "agreement evaporates" because the proposed license renewal rule did not specify a "focused integrated plant assessment similar to the NUMARC methodology" (NUMARC Report Number 90–11, "Methodology to Evaluate Plant Systems, Structures, and Components," December 1990) and did not unreservedly accept the adequacy of the CLB as a standard for license renewal. The utilities also argue that, where there are two or more ways to satisfactorily address age-related degradation, the licensee should be free to choose the most cost-effective alternative, unless the staff determines that it is necessary or desirable to designate a specific alternative. There was some lack of agreement within the industry as to the amount of documentation that the NRC was required to generate to justify that a proposed backfit is necessary to ensure adequate protection or compliance. NUMARC's proposed rule would require

the NRC to comply with the documentation requirements of 10 CFR 50.109(a)(4). By contrast, a utility commenter states that it would be unreasonable to encumber the NRC with additional justification requirements where the backfits truly relate to adequate protection.

The Commission continues to believe that a special provision in 10 CFR part 54 that would impose backfit-style requirements on the agency is not needed. All requirements, whether or not age-related, necessary to ensure adequate protection will be required without regard to cost. This is analogous to the "adequate protection exemption" in 10 CFR 50.109(a)(4)(ii). Any additional requirements to address age-related degradation unique to license renewal that are necessary to ensure compliance with the plant's current licensing basis may be imposed without regard to cost. This is analogous to the "compliance exemption" in 10 CFR 50.109(a)(4)(i). The NRC need not prepare a separate document explaining the basis for such a conclusion. Instead, the basis for such a conclusion will normally be documented by the NRC in a safety evaluation report that presents the results of the NRC staff's review of the renewal application. The Commission rejects a commenter's proposal that these findings must be made separately from the staff's overall safety evaluation. A separate finding would be unduly burdensome and elevate form above substance since the staff's evaluation should clearly state why an action is necessary.

Once a renewed license is issued, normal backfit protections apply and all changes to the current licensing basis of the renewed license would be subject to the backfit rule in accordance with § 54.35 of the final rule.

q. Procedure for Hearings

The Commission will conduct any necessary hearings required by 10 CFR part 54 in accordance with subpart G of 10 CFR part 2. Two commenters urge that the proposed license renewal rule include a requirement that the Atomic Safety and Licensing Board be required to adopt a hearing schedule. Responding to the Commission's observation in the proposed license renewal rule's Preamble (55 FR 29052) that the timely renewal doctrine reduces the burden to the licensee stemming from protracted hearings, these commenters point out that licensees who need to have a definitive agency decision on the license renewal application 10 to 15 years prior to actual expiration will not be effectively helped by the timely renewal doctrine. The Commission recognized in the proposed license renewal rule's Preamble that the timely renewal doctrine would not assist licensees in need of "timely contingency planning" (55 FR 29052). However, the Commission continues to believe that the new provisions in 10 CFR part 2, together with the authority of the Commission and the Atomic Safety and Licensing Board to adopt a hearing schedule in any individual license renewal hearing, obviate the need for a hearing schedule in 10 CFR part 54. The Commission further believes that incorporation of a hearing schedule with specific deadlines into either 10 CFR part 54 or 10 CFR part 2 could unnecessarily reduce the flexibility of the Licensing Board. For example, if a schedule were mandatory, deviations from the schedule may not be able to be made without a § 54.15 exemption, unless the rule sets forth the procedure and standards for deviating from the 10 CFR part 54 hearing schedule. Conversely, if the 10 CFR part 54 schedule were not binding but merely admonitory, the Commission fails to see how such a provision would add to the Commission's or Licensing Board's authority to adopt a hearing schedule.

r. Report of the Advisory Committee on Reactor Safeguards

Section 182.b of the AEA states:

> The ACRS shall review each application under section 103 or section 104b. for a construction permit or an operating license for a facility, any application under section 104c. for a construction permit or an operating license for a testing facility, any application under section 104a. or c. specifically referred to it by the Commission, and any application for an amendment to a construction permit or an amendment to an operating license under section 103 or 104a., b., or c. specifically referred to it by the Commission * * *

Section 182.b does not explicitly refer to applications for renewal of an operating license as requiring ACRS review. However, The Commission believes that review by the ACRS is desirable. Accordingly, § 54.25 of the final rule requires ACRS review of a license renewal application.

s. Emergency Planning Considerations

Sections 50.47, 50.54(q), and 50.54(s) through (u) and appendix E to part 50 establish requirements and performance objectives to protect the public health and safety by ensuring the existence, implementation, revision, and maintenance of emergency preparedness programs for licensed nuclear power plants. These requirements apply to all nuclear power plant licensees and require the specified levels of protection from each licensee regardless of plant design, construction, or license date. Specifically, § 50.54(q) requires that a licensee maintain in effect emergency preparedness plans that meet the standard in § 50.47(b) and the requirements in appendix E to 10 CFR part 50. The requirements of § 50.47 and appendix E are independent of the renewal of the operating license, and they will continue to apply during the license renewal term.

To ensure that a licensee's plan remains adequate to protect the health and safety of the public during the term of the initial license, NRC requires, under § 50.54(t), a detailed annual review of the facility's emergency preparedness plan by persons who have no direct responsibility for its implementation. Included within the review is an evaluation of the continued adequacy of applicable and appropriate communication and working relationships with State and local governments. Under appendix E to 10 CFR part 50, licensees must also perform an annual exercise of their emergency preparedness plans and be evaluated by the NRC against definitive performance criteria. The Commission requires that these periodic exercises be performed to measure the effectiveness of the plan against some or all of the standards on an annual basis and ensures that within a 5-year period the plan is tested against all of the 16 standards. Following each of the required exercises, findings are made concerning the success of the plan and, in some cases, weak and deficient areas that require correction are identified. These processes will continue during the renewal term. In conclusion, the Commission's regulations require the routine evaluation of the effectiveness of existing emergency preparedness plans against the 16 planning standards and the modification of emergency preparedness plans when the 16 standards are not met. Through its standards and required exercises, the Commission ensures that existing plans are adequate throughout the life of any plant even in the face of changing demographics and other site-related factors. Thus, these drills, performance criteria, and independent evaluations provide a process to ensure continued adequacy of emergency preparedness in light of changes in site characteristics that may occur during the term of the existing operating license, such as transportation systems and demographics. There is no need for a licensing review of emergency planning issues in the context of license renewal.

The NRC has determined that the current requirements, including continuing update requirements for

emergency planning, provide reasonable assurance that an acceptable level of emergency preparedness exists at any operating reactor at any time in its operating lifetime. The Commission has amended 10 CFR 50.47 to clarify that no new finding on emergency preparedness will be made as part of a license renewal decision.

The Commission received a number of comments from public interest groups contending that current emergency preparedness plans are not adequate and that periodic revisions to existing emergency preparedness plans and the execution of emergency plan exercises were generally considered inadequate to keep pace with changing demographics, land use, and transportation patterns. One commenter raised the issue that the evacuation time estimates would need to be reviewed in light of the changes in demography. The issue concerning the potential inadequacy of the existing plans, exercises, or evaluation time estimates to account for such changes does not involve matters limited to the renewal of operating licenses.

In conclusion, the Commission has carefully considered the issues raised by commenters on the need to make a finding on the adequacy of existing emergency preparedness plans in order to grant a renewal license. For the reasons stated above, the Commission concludes that the adequacy of existing emergency preparedness plans need not be considered anew as part of issuing a renewed operating license.

t. Plant Physical Security Considerations

Licensees must establish and maintain a system for the physical protection of plants and materials, in accordance with 10 CFR part 73, to protect the plant from acts of radiological sabotage and prevent the theft of special nuclear material.

The NRC reviews the status of physical security measures at each individual plant during the Systematic Assessment of Licensee Performance. The NRC has also used Regulatory Effectiveness Reviews (RERs) to determine site compliance with 10 CFR 73.55 and ensure that the level of protection required by part 73 is maintained. The RER teams use NRC security personnel and members of the U.S. Army Special Forces to test plant security systems and personnel.

The requirements of 10 CFR part 73, notably the testing and maintenance requirements of 10 CFR 73.55(g), include provisions for keeping up the performance of security equipment against impairment due to age-related degradation or other causes. Once a licensee establishes an acceptable physical protection system, changes that would decrease the effectiveness of the system cannot be made without filing an application for license amendment in accordance with 10 CFR 50.54(p)(1).

Application for a renewed license will not affect the standards for physical protection required by the NRC. The level of protection will be maintained during the renewal term in the same manner as during the original license term, since these requirements remain in effect during the renewal term by the language of § 54.35. The requirements of 10 CFR part 73 will continue to be reviewed and changed to incorporate new information, as necessary. The NRC will continue to ensure compliance of all licensees, whether operating under an original license or a renewed one, through ongoing inspections and reviews. Therefore, the Commission concludes that a review of the adequacy of existing security plans is not necessary as part of the license renewal review process.

The NRC has reviewed current requirements for physical protection and determined that they provide reasonable assurance that an adequate level of physical protection will exist at any reactor at any time in its operating lifetime.

The NRC received one comment that stated a need to reexamine, as part of the IPA, physical security plans in general and one comment that suggested a need to review security plans to enhance the level of physical security in the event that additional high-level waste will be temporarily stored on the site during the renewal term. As for the need to rereview security plans, the discussion above has indicated why an application for a renewed license will not affect the standards for physical protection required by NRC and why the currently approved physical security plans meet the existing standards for physical protection established in 10 CFR 73.55. The level of physical protection required by 10 CFR 73.55 will also remain in effect for the renewal term. Therefore, the Commission concludes that is not necessary to rereview security plans that meet the current standards for physical protection.

As for the need for a physical security plan review for the protection of a waste storage facility, the Commission's existing regulations in 10 CFR parts 72 and 73 specify the security requirements for sites where application is made to construct additional high-level-waste storage facilities. These regulations require the staff review of additional physical security measures to ensure that the new waste storage facilities would be adequately protected. These regulations and requirements must be satisfied at any time when a licensee would seek to construct such a facility, whether during the initial term or during a renewal term, and the review of the physical security measures necessary for licensing any type of monitored retrievable storage facility will occur independently of any license renewal application review. The license renewal rule does not reduce or restrict staff review of the necessary changes to the physical security plans should a licensee submit a separate request to construct a waste storage facility simultaneously with a renewal application.

u. Operator Licensing Considerations

Individuals who manipulate the controls of nuclear power facilities licensed under 10 CFR part 50 and individuals who direct activities of those individuals must be licensed by the NRC. Specific criteria for obtaining a license are set forth in 10 CFR part 55, which establishes the procedures and criteria for issuing operator licenses and defines the terms and conditions under which the NRC grants, modifies, and renews these licenses. The licensing process for individual plant operators is independent of the facility licensing process, and no change to 10 CFR part 55 is necessary.

License renewal of the facility could affect operators, however, in that additional maintenance, surveillance, or equipment replacement may be necessary at some plants. Plant personnel would be informed of and trained to handle these activities through training programs. Operators are currently required to participate in periodic training programs, which cover important changes to the facility or supporting programs and procedures, and to requalify for their licenses, demonstrating this knowledge on a periodic basic. The requirements for operator knowledge set forth in 10 CFR part 55, subpart E, "Written Examinations and Operating Tests," as well as normal NRC review of plant operations, are adequate to ensure that operators are aware of any license renewal development that may affect their duties. In addition, the use of approved plant simulators for testing individual plant operators is required of all licensees and will not be affected by license renewal.

Ongoing NRC inspection and licensing efforts will verify that important license renewal developments are adequately addressed in the training of plant operators.

v. Financial Qualification Considerations

In 1984, the NRC adopted changes to §§ 50.57 and 2.104 concerning the need to perform financial qualification reviews of applicants for commercial nuclear power plant licenses (49 FR 35747; September 12, 1984). Under the revised rule, electric utilities that apply for or possess an operating license are excluded from review of their financial qualifications by the NRC during an operating license proceeding. In publishing the final rule, the Commission stated:

> The Commission believes that the record of this rulemaking demonstrates generically that the rate process assures that funds needed for safe operation will be made available to regulated electric utilities. Since obtaining such assurance was the sole objective of the financial qualification rule, the Commission concludes that, other than in exceptional cases, no case-by-case litigation of the financial qualification of such applicants is warranted. (49 FR 35750)

This finding was based on a national survey submitted by the nuclear industry and the National Association of Regulatory Utility Commissioners regarding the provisions of operating funds for nuclear power plants through the rate-making process of State commissions. The study concluded, *inter alia*, that rate-making authorities had various mechanisms to ensure the availability of utility revenues sufficient to meet the costs of NRC safety requirements. More specifically, most rate-making bodies indicated that, while in specific provision was made for NRC safety requirements, rates are generally estimated to produce sufficient overall revenues to ensure sound functioning of electric power systems, including nuclear plants. Some public utility commissions indicated that their orders specifically allocate funds to meet NRC safety requirements (49 FR 35750).

The Commission believes that this finding is also true for renewed operating licenses for nuclear power plants. Therefore, the exclusions in § 50.57(a)(4) and § 2.104(c)(4) with respect to the need for financial reviews of applications for operating licenses are extended to applicants for renewal of operating licenses. The Commission concluded that the rate-making process generally provides assurance that funds needed for safe operation will be made available to regulated electric utilities. It further concluded that case-by-case litigation of the financial qualification of applicants for operating licenses is not warranted, except in exceptional cases (49 FR 35750). The Commission has no reason to believe or evidence that shows that these findings would not also be true for the period of renewal.

The Commission received three comments on the need for financial qualification reviews. One commenter requested that financial qualification reviews be retained if circumstances change since initial licensing, while another commenter stated that financial qualification reviews should be retained to account for the extended period of operation. A third commenter suggested that applicants for license renewal be required to conduct least-cost planning for providing service at a reasonable cost.

The Commission disagrees with these comments. The commenter suggesting that financial qualification reviews be retained to address changed circumstances pointed to structural changes in the electric power industry, the rise of independent power producers, and the use of performance incentive rate regulation as the bases for its position. These reasons are not persuasive. Licensee renewal should not pose any special issues regarding financial qualifications. The commenter did not suggest that unique rate-setting principles would be applied during the renewal period, as compared with current operation. Least-cost planning is an issue that is not within the scope of the NRC's statutory authority. This issue is typically the responsibility of State public utility commissions. Therefore, least-cost planning will not be addressed by this rulemaking.

w. Decommissioning Considerations

The Commission's current requirements with respect to decommissioning assume that decommissioning is the only option following the expiration of the nuclear power plant's operation license. Five years before an operating license is to expire, the licensee is required by 10 CFR 50.54(bb) to submit written notification to the Commission for review and approval of a program for funding of the costs of management of spent fuel during the time between the expiration of the operating license and until the spent fuel is transferred to the U.S. Department of Energy for disposal in a spent fuel repository. Also 5 years prior to the "projected end of operation," the licensee is required, pursuant to 10 CFR 50.75(f), to provide a preliminary decommissioning plan, a cost estimate for implementing the plan, and any changes in funding necessary to ensure that there will be sufficient funds for decommissioning. Not later than 1 year before the license is to expire, the licensee must file an application to terminate its operating license, together with a detailed plan for decommissioning, in accordance with 10 CFR 50.82. If an operating license were renewed before the dates set by the related regulations, both the preliminary and final decommissioning planning requirements would be postponed until expiration of the renewed license.

In the proposed license renewal rule, the Commission suggested that licensees who filed license renewal applications should not file the reports and preliminary plans required for plants proceeding to decommissioning. More specifically, the Commission proposed postponing the submittal of the spent fuel management and the preliminary decommissioning plans, required by §§ 50.54(bb) and 50.75(f), until a final determination on the renewal application is made. The Commission also proposed a change to § 50.82 to govern the submittal of final decommissioning plans and application for termination of the operating license if a final determination is made within the last year of the license period or if a final determination is made after the license has expired and the licensee has continued operating under the timely renewal provisions of 10 CFR 2.109(b).

Upon reconsideration of the policy issues involved with the decommissioning rulemakings and in response to arguments presented by the public comments, the Commission has determined that a waiver of the spent fuel management plan and the preliminary decommissioning plan will not automatically be provided for plants seeking license renewal. The regulatory record of the decommissioning rulemaking highlights the importance of the preliminary plans in ensuring an orderly transition from operation to decommissioning. While license renewal was not considered an option at the time of the decommissioning rulemaking, the Commission has determined that, even though a plant may be seeking a renewed license, some planning for the possibility that a plant would have to decommission (i.e., the application is denied) is still appropriate. Therefore, the Commission will not implement a waiver of the requirements of both §§ 50.54(bb) and 50.75 for plants seeking a renewed license.

The Commission, however, will retain the proposed modification of § 50.82, which postpones the submittal of the final decommissioning plan until the Commission makes a final determination on the license renewal application. The final rule will amend § 50.82 such that a licensee who has filed a timely renewal application and either (1) has not yet received a final

determination on its application or (2) has been operating under the timely renewal provisions of 10 CFR 2.109(b) when the application is denied would not need to file the final decommissioning plan and application for termination of the operating license until 1 year after a final determination on the application is made.

Commenters on the proposed rule highlighted two issues related to the accumulation of funds for eventual decommissioning of the facility. One commenter suggested that the assurance of adequate funds for decommissioning should be required regardless of the license renewal status of a plant. Another commenter similarly commented that the NRC clearly state that licensees must collect decommissioning funds until a final NRC determination on license renewal is made and that the funding arrangements specified in the decommissioning rule apply to license renewal. In this ruelmaking, the Commission concludes that the funding arrangements contained in the final decommissioning rule should remain in effect for license renewal. As discussed in the Statement of Considerations for the final decommissioning rule (53 FR 24018; June 27, 1988), the combination of requirements, that is (1) adequate financial responsibility early in life, (2) periodic adjustments, and (3) evaluation of specific provisions close to the time of decommissioning, will provide reasonable assurance that, at the time of permanent end of operations, sufficient funds are available to decommission the facility in a manner that protects public health and safety.

Based on the foregoing, the Commission has concluded that no waiver of the requirements of both §§ 50.54(bb) and 50.75 will be implemented by the license renewal rulemaking. The Commission recognizes that this would require a renewal applicant to evaluate decommissioning needs in a preliminary manner while a license renewal application could also be under review. However, the Commission believes that prudent planning for decommissioning is appropriate and that waiver of the requirements for preliminary decommissioning, absent a clear indication that a license will be renewed, would appear to predetermine the outcome of a renewal application. If the current decommissioning requirements are modified in the future, the Commission will reconsider the need to submit preliminary decommissioning information while a renewal applicant is under review.

The exemption process provided by § 54.15 is available to a renewal applicant who would like to seek relief from the need to submit both license renewal and decommissioning information. However, the Commission does not expect this circumstance to routinely occur. The industry's estimates and stated position are that the lead time for replacement of lost electrical power would necessitate a final NRC determination on license renewal about 10 years prior to expiration of the operating license, well in advance of the time when the preliminary decommissioning information would need to be submitted.

Some commenters expressed concern that the proposed rule, as written, would have required a licensee to submit an application for termination of its current operating license within 1 year of a denial of a renewal application. The proposed rule had the potential to require licensees with a number of operating years remaining under their 10 CFR part 50 license to request termination simply because a request for license renewal was denied. This was not the Commission's intent. Therefore, the final rule has been revised to clarify this requirement. Under the rule as revised, a licensee need only submit a request to terminate its operating license if: (1) The denial decisions obtained within 1 year of the expiration date of the license in effect, or (2) a licensee has been operating under the timely renewal provision of 10 CFR 2.109(b) and the renewal application is denied.

x. Antitrust Review

The final rule does not require antitrust review for either a section 103 or section 104.b operating license renewal application. Turning first to section 103 plants, the legislative history of section 105.c.2 reflects Congress' intent that operating license renewal applications should not normally be subject to antitrust review:

> The committee recognizes that applications may be amended from time to time, that there may be applications to extend or review [3] a license, and also that the form of the application for a construction permit may be such that, from the applicant's standpoint, it ultimately ripens into an application for an operating license. The phrases, "any license application", "an application for a license", and "any application," as used in the clarified and revised section 105.c refer to the *initial* application for a construction permit, the *initial* application for an operating license, or the *initial* application for a modification which would constitute a new or substantially different facility, as the case may be, as determined by the Commission." Joint Committee on Atomic Energy, Amending the Atomic Energy Act, H.Rep. No. 1470, 91st Cong., 2d Sess. 29 (1970); S.Rep. No. 1247, 91st Cong., 2d Sess. 29 (1970) (emphasis added).

Therefore, unless the operating license renewal application constitutes an "initial application," or an initial application for a "new or substantially different facility," the AEA does not require an antitrust review in connection with the renewal application.

The Joint Committee report did not explain what modifications would constitute a "new or substantially different facility." However, guidance on what constitutes these types of modifications may be derived from section 185 of the AEA, which requires issuance of a construction permit to "modify" a production or utilization facility. The Commission's requirements on license amendments, 10 CFR 50.92, provide that changes constituting a "material alteration" of a facility require issuance of a new construction permit. In the past, the NRC staff has required a new construction permit where the licensee sought to replace a research reactor's control rods, rod drive mechanisms, and core and control room instrumentation with components of a completely different design. *See Virginia Electric and Power Co.* (Surry Power Station, Units 1 and 2), DD–79–19, 10 NRC 625, 656 (1979). In All Chemical Isotope Enrichment, Inc. (AlChemIE Facility-1 CPDF Facility-2, Oliver Springs), LBP–89–5, 29 NRC 99 (1989), the licensee was required to obtain a construction permit to alter a U.S. Department of Energy uranium enrichment facility into a stable isotope enrichment facility. On the other hand, construction permits were not issued where a nuclear power plant's steam generators were replaced with generators of a different design, new full-flow condensate polishing demineralization systems were installed, and a new building was constructed. *Surry, supra.* Construction permits were also not required for spent fuel pool modifications. See, e.g., Portland General Electric Co. (Trojan

[3] The Commission believes this is a typographical error and that the Joint Committee meant to use the word, "renew." For one thing, replacing "review" with "renew" makes more sense by eliminating the opponent redundancy with the preceding phrase. More importantly, in the Joint Committee's report on S. 1414, the section-by-section analysis of Section 105.c is *exactly* the same as the Joint Committee's report on H.R. 18679, with one exception—the word "review" is replaced with renew. No discussion as to the reason for the difference in words appears. For these reasons, the Commission believes that the Joint Committee meant to use the word "renew" instead of "review" in the section-by-section analysis of H.R. 18679.

Nuclear Plant), LBP–77–69, 6 NRC 1179 (1979); Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB–880, 26 NRC 449 (1987). These cases suggest that material alteration of nuclear power plants occur when the fundamental nature of the facility is altered so that the design bases implementing the principal design criteria for the facility are changed.

Such fundamental changes in design or facility purpose are not expected to occur as a consequence of license renewal. Renewal of a nuclear power plant operating license does not serve to transform a nuclear power plant into some other type of facility. Hence, the fundamental nature of a nuclear power plant will not be altered as a result of the renewal application. Moreover, the focus of the final 10 CFR part 54 rule is the management of age-related degradation that is expected to occur during the renewal term. Thus, the activities that must be accomplished in order to demonstrate adequate management of age-related degradation occurring during the renewal term are not likely to involve fundamental changes in the principal design criteria for a nuclear power plant or the design bases implementing these criteria. Activities expected to be accomplished in support of the renewal application may include the replacement of steam generators, primary loop piping, lower reactor internals, electrical power and instrumentation and control cables, and the refurbishment of pumps, motor-operated valves, and NSSS components. Many of these license renewal activities are indistinguishable from the ongoing maintenance and overhaul activities at plants. Other activities, while never before performed on a large scale (e.g., replacement of wiring and cables), do not intrinsically involve changes in fundamental design criteria and design bases. For these reasons, the Commission finds that section 103 nuclear power plant licensees are not expected to undertake plant modifications in connection with the license renewal application that would transform their plants into "new or substantially different" facilities.

Since renewal applications are neither an "initial application" for an operating license nor an initial application for a "new or substantially different facility," the Commission concludes that antitrust considerations are not material in the context of license renewal. Therefore, the final rule does not contain a provision requiring antitrust review of a section 103 license renewal application, and the Commission declines to adopt a commenter's suggestion that license renewal applicants include information in their renewal application to permit the NRC to determine whether such modifications have occurred.

Despite the Commission's determination in this regard, the Commission notes that antitrust conditions on the existing operating license are not ended when the license is renewed. Existing antitrust conditions would comprise part of the current licensing basis for a plant and therefore would continue to remain in effect during the renewed term.

A commenter challenged the Commission's proposal not to require antitrust review of section 103 licenses, arguing that since a renewal license "plainly is a section 103 license," it is subject to section 105 antitrust review. Significantly, the commenter did not address the fact that Congress did not intend antitrust review for other than initial operating licenses, absent modifications constituting a new or substantially different facility. The commenter states instead that the passage of time in conjunction with changes in the structure of the electric utility industry, reduction in generated cost of nuclear power due to full capital amortization, and changes in plant systems, structures, and components argue in favor of a new antitrust review. The commenter's analysis may be correct, but the AEA does not permit the NRC to take these factors into account in determining the need for antitrust review in license renewals.

Nuclear power plants licensed under section 104.b of the AEA are not subject to antitrust review, since the antitrust review provisions of section 105.c.(1) apply only to plants licensed under section 103. See AEA, section 105.c.(2). Section 105.c.(3) of the AEA as amended in 1970 does provide one circumstance where antitrust review for section 104.b plants may be requested, viz., a person who sought to raise antitrust issues in a section 104.b construction permit case could request an antitrust review within 25 days of the **Federal Register** notice of filing of the operating license. This could be read as providing an opportunity to request antitrust review within 25 days of the **Federal Register** notice for the renewal application. However, as discussed above, the legislative history of the 1970 amendments clearly discloses Congress' intent that only initial operating licenses be subject to antitrust review. The Commission therefore concludes that section 104. facilities are not subject to antitrust review in connection with renewal of their operating licenses.

The commenter nonetheless argues that section 104.b plants should be subject to antitrust review. The commenter first asserts that the NRC has no authority to relicense plants under section 104.b. The Commission disagrees with that assertion. The commenter cites no statutory provision or explanatory Congressional committee report for this position. In fact, section 102.b of the AEA requires that if the construction permit for a plant was issued under section 104.b, then "any license hereafter issued" shall be under section 104.b. The report by the Joint Committee on Atomic Energy on the 1970 amendment states that "subsection 104.b. licenses would not be convertible to section 103 licenses * * *." H.Rep. No. 1470, 91st Cong., 2d Sess. 28 (1970), S.Rep. No. 1347, 91st Cong., 2d Sess. 28 (1970).

Nonetheless, the commenter claims that the antitrust review exemption for section 104.b plants does not apply if, subsequent to initial licensing, the facility has been modified to such a degree so as to constitute a "new or substantially different facility," citing a passage on page 27 of the Joint Committee report. The commenter then argues that section 104.b plants have been altered to such an extent after their initial licensing so as to constitute a "new or substantially different facility." The Commission believes that the commenter misunderstands the Committee's intent in this regard. Congress never intended that each license amendment or license renewal application filed after the initial license issuance be the occasion for determining anew whether all previous changes now constitute a new or substantially different facility. Rather, the test was to be whether the application, considered by itself, represents an "initial application for a modification which would constitute a new or substantially different facility." Joint Committee Report, at 29. The Commission believes that once the inquiry is properly focused upon the changes proposed in the renewal application, there is little basis for finding that licensees of section 104.b plants will undertake modifications in connection with license renewal applications such that their plants would be transformed into "new or substantially different" facilities. As discussed above in connection with section 103 plants, the refurbishment or replacement activities that licensees are expected to undertake in support of license renewal do not involve fundamental alteration to the purpose of the plant, nor will there be fundamental changes to the design criteria and design

bases. Section 104.b plants are indistinguishable from section 103 plants in this regard. The Commission concludes that section 104.b plant licensees are not expected to undertake plant modifications in connection with the license renewal application that would transform their plants into "new or substantially different" facilities, and therefore no antitrust review need be conducted for section 104.b plants as a consequence of license renewal.

The commenter's suggestion in its supplementary comments that antitrust review is particularly compelling in the case of section 104.b plants actually subjected to antitrust review under section 105.c.(3) is unpersuasive. Again, the Joint Committee report makes clear that there was only to be one antitrust review, absent modification of a nuclear power plant such that it could be regarded as "new or substantially different."

The commenter's final point is that the Commission as a matter of policy should undertake an antitrust review in connection with a renewal application. Congress has determined the extent of the NRC's antitrust responsibilities vis-a-vis licensing activities, and the Commission has long indicated its unwillingness to expand the scope of its inquiry beyond that contemplated by statute. *See Houston Lighting and Power Co.*, CLI-77-13, 5 NCR 1303 (1977). Moreover, persons are not precluded from obtaining relief with respect to anticompetitive activies described in the comments. Those who feel they are aggrieved by anticompetitive conduct may request action from the U.S. Department of Justice and the Federal Trade Commission. These Federal agencies have primary jurisdiction in investigating anticompetitive behavior, possess far greater resources and expertise to investigate such activities, and have broader authority to seek or order relief. Finally, aggrieved parties can pursue a private antitrust action in Federal or State courts.

y. Compliance with 10 CFR Part 140

Section 170 of the AEA (commonly referred to as the Price-Anderson Act) establishes financial protection and indemnity requirements for certain NRC licensees. The regulations in 10 CFR part 140 codify the requirements of the Price-Anderson Act. These requirements currently apply to "persons who is (sic) an applicant for or holder of a license issued pursuant to 10 CFR part 50 of this chapter to operate a nuclear reactor." See 10 CFR 140.2(a)(1). Thus, under § 140.2(a)(1), licensees holding renewed nuclear power plant operating licenses are subject to the requirements of 10 CFR part 140. Although renewed operating licenses will now be issued pursuant to 10 CFR part 54, the Commission intends nuclear power plant licensees holding renewed licenses to continue to be subject to 10 CFR part 140. Therefore, the Commission is modifying 10 CFR 140.2(a)(1) and 10 CFR 140.10 to make clear that the applicable requirements of 10 CFR part 140 also apply to licensees under 10 CFR part 54.

In accordance with 10 CFR 50.57(a)(5), each licensee was found to be in compliance with the requirements of 10 CFR part 140 when the original operating license was issued. The Commission does not believe that a new finding of compliance with 10 CFR part 140 is necessary when it issues a renewed operating license under 10 CFR part 54. All licensees are required to comply with 10 CFR part 140 throughout the term of their license. Thereafter, in connection with any further licensing action (e.g., license amendments), the NRC reviews the indemnity provisions and makes any necessary adjustments. In addition, the nuclear power plant insurance pools that form the basis for the financial protection requirements of 10 CFR part 140 inform the NRC each year regarding any changes in insurance or potential cancellations. For these reasons, the Commission concludes that a new finding of compliance with 10 CFR part 140 need not be made in connection with any renewal of a nuclear power plant operating license under 10 CFR part 54.

A law firm commenting on behalf of a number of individual utilities points out that the attachment to the standard indemnity agreement entered into between licensees and the NRC, at 10 CFR 140.92, appendix B, would have to be changed to include the license number for the renewed license. The law firm suggests that the license renewal application include a request to make conforming changes in the attachment to the standard indemnity agreement. The Commission agrees and includes a new provision in § 54.19 that requires a licensee to identify conforming changes in the attachment to the standard indemnity agreement.

The commenter also questions whether Price-Anderson coverage would apply if the renewed license were issued in the form of a supersession license. According to the commenter, an argument could be raised that a supersession license is a "wholly different" license not covered by Price-Anderson. The Commission does not accept this analysis. The final sentence of section 170.c states:

> With respect to any production or utilization facility for which a construction permit is issued between August 30, 1954, and August 1, 2002, the requirements of this subsection shall apply to any license issued for such facility subsequent to August 1, 2002.

It is unclear how the term "any license" could somehow be interpreted not to include a supersession license issued to effectuate operating license renewal. The commenter does not explain what policy, legal, or technical considerations would serve to distinguish supersession licenses so as to defeat Congress' clear intent that facilities with construction permits issued before August 1, 2002, enjoy continued Price-Anderson coverage during the term of "any license" issued after that date. Moreover, the commenter's suggested solution, to amend the existing license's term beyond 40 years, is not legally available to the NRC. (See discussion in section IV.g.) The Commission concludes that Price-Anderson coverage continues to apply to renewed licenses for facilities having construction permits issued prior to August 1, 2002.

The commenter also addressed the question of whether Price-Anderson indemnification applies during the interim period of operation where a timely and sufficient renewal application was filed, the operating license has expired, and the NRC has yet to act on the application. The Commission concludes that Price-Anderson indemnification continues to apply during the interim period of operation. Section 170.c states that an indemnification contract "shall cover public liability arising out of or in connection with the licensed activity." As discussed in Section IV.b, a license is not deemed to be expired if a timely and sufficient renewal application has been filed with the NRC. Since the operating license is deemed to still be in effect and not expired, activities conducted in accordance with the operating license during the interim period of operation are "licensed activities" that are covered by the indemnification contract.

V. Availability of Documents

The principal supporting documents of this supplementary information are:

(1) NUREG-1412, "Foundation for the Adequacy of the Licensing Bases," U.S. Nuclear Regulatory Commission (USNRC), December 1991.

(2) NUREG-1398, "Environmental Assessment for Final Rule on Nuclear Power Plant License Renewal," USNRC, December 1991.

(3) NUREG-1362, "Regulatory Analysis for Final Rule on Nuclear Power Plant License Renewal," USNRC, December 1991.

(4) NUREG–1428, "Analysis of Public Comments on the Proposed Rule on Nuclear Power Plant License Renewal," USNRC, December 1991.

(5) NUREG/CR–5382, "Screening of Generic Safety Issues for License Renewal Considerations," The MITRE Corporation, December 1991.

(6) NUREG–1411, "Response to Public Comments Resulting from the Public Workshop on Nuclear Power Plant License Renewal," USNRC, July 1990.

Copies of all documents cited in the supplementary information section of this final rule are available for inspection, and/or for copying for a fee, in the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

In addition, copies of NUREGs cited in this document may be purchased from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20013–7082. Copies are also available for purchase from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

VI. Finding of No Significant Environmental Impact

An environmental assessment (EA) of this rule has been prepared pursuant to the National Environmental Policy Act (NEPA) and NRC's regulations in 10 CFR part 51. Under NEPA and 10 CFR part 51, the NRC must consider, as an integral part of its decisionmaking process on the proposed action, the expected environmental impacts of promulgating the rule and reasonable alternatives to the action. The Commission has determined that this rule is not a major Federal action signficantly affecting the quality of human environment. The Commission has therefore determined not to prepare an environmental impact statement for this action. The environmental assessment on which the determination is based has been issued as NUREG–1398.

License renewal is and has been permitted under the AEA and previously was implemented in the Commission's regulations at 10 CFR 50.51. This new rule (10 CFR part 54) differs from the previous rule in that it establishes the specific procedural and safety criteria and standards for renewal, whereas the previous rule was silent about such criteria and standards. In either case, the Commission's environmental protection regulations, 10 CFR part 51, would be applied equally in renewing individual operating licenses under either the old or the new rule. The 10 CFR part 54 rule does not change the requirements of 10 CFR part 51.

In preparing the EA, the NRC assessed the possible differences in environmental impacts that might arise due to relicensing under the provisions of 10 CFR part 54 rather than 10 CFR 50.51. License renewal under either rule would involve essentially the same types of analyses and actions, specifically inspection, surveillance, testing, and monitoring (ISTM) and repair, replacement, or refurbishment of selected nuclear plant components and structures that are subject to aging. The scope of these activities would be specific to each plant and be based on an assessment of plant safety and operation. Depending on the specific changes required in each case, the plants would make these changes at least partly during normal refueling shutdowns, but some plants may require additional shutdown prior to expiration of the initial license to accomplish the changes. A work force of from 300 to 950 could be on site during this period, regardless of whether renewal is under previous requirements or the final license renewal rule.

The environmental impacts associated with ISTM and with repair, replacement, or refurbishment would be of the same magnitude as those experienced during other maintenance or replacement activities conducted during the previous operation of the plant. Occupational exposures resulting from these activities are expected to range from 270 to 1930 person-rems based on exposure data from previous major maintenance activities. These impacts would not vary significantly whether renewal is accomplished under previous requirements or the final rule.

The modifications, repairs, and replacements undertaken in each plant would not entail changes to the overall design of the plant. Thus basic plant operating parameters, such as thermal performance, power output, and fuel utilization, would not, in general, be expected to change during any renewal term under either the previous rule or the final rule. Further, occupational exposure and both radiological and nonradiological releases from the plant would be essentially the same whether renewal is achieved under previous requirements or the final rule and are not expected to differ in magnitude from those experienced during operation prior to license renewal. The current average occupational radiation dose per plant of 425 person-rems per year (based on 1987 data) is expected to continue at about that level or lower through a 20-year license renewal term.

Under the final license renewal rule, each licensee is required at the time of application to identify important-to-license-renewal systems, structures, and components of the plant that are subject to aging and, during the renewal term, to assess and manage the aging degradation of those components. Though similar objectives would be required under the previous rule, the procedures and standards that would be involved are not specified by the previous rule.

Annual radioactive waste production is not expected to change significantly from rates during the original license term under either rule. A 20-year addition to a 40-year term of operation for a plant would, under either existing requirements or the final license renewal rule, result in about a 50 percent increase in the requirement for high-level waste repository storage, some increase in the spent fuel storage capability at each individual plant, and about a 50 percent increase in Tow-level waste storage capacity.

In sum, the environmental impact resulting from relicensing under 10 CFR part 54 would be similar to that for relicensing under the previous rule (10 CFR 50.51).

VII. Paperwork Reduction Act Statement

This final rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). Existing requirements were approved by the Office of Management and Budget approval number 3150–0155. The amended information collection requirements contained in the final rule will not become effective until after they are approved by the Office of Management and Budget. Notice of OMB approval will be published in the Federal Register.

Public reporting burden for this collection of information is estimated to average 135,000 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Information and Records Management Branch (MNBB–7714), U.S. Nuclear Regulatory Commission, Washington, DC 20555; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB–3019, (3150–0136, 0011, 0155, and 0039), Office of Management and Budget, Washington, DC 20503.

VIII. Regulatory Analysis

The NRC prepared a regulatory analysis of the benefits and costs of the final rule and of a set of significant alternatives. The analysis is reported in NUREG–1362. Some highlights of the analysis are presented below.

The specific objectives of the license renewal rule are to establish the standards that must be met by license renewal applicants, to define the scope of information required for reviewing the applications, and to specify the procedures for submitting the applications. In order to determine the specific content of the rule consistent with these objectives, the NRC staff has defined and evaluated a set of specific alternatives that cover the range of alternatives that would meet these objectives, as summarized below. The alternative sets of safety criteria and standards, reflecting differing approaches and stringencies, that were evaluated and compared in the regulatory analysis are as follows:

Alternative A

Current licensing basis (original licensing basis, as amended to the time of the renewed license) with no additional requirements.

This alternative is based on the proposition that risk-signifiant changes in the plant's materials and equipment generally occur as a gradual, progressive process. Knowledge of plant condition, maintenance actions to keep up an adequately safe condition, and aging management are all required during the original licensing term as well as after renewal. The current licensing basis, together with such future changes in requirements as may become applicable to particular plants, could thus be viewed as adequately accommodating the evolving technical issues of plant aging past the renewal date.

This alternative would require the lowest renewal expenditures but would be least intensive in addressing the advancing age-degradation issues.

Alternative B

Extension of Alternative A to require assessment and management of aging unique to license renewal.

This alternative would place the following requirements on the licensee: systematic identification of systems, structures, and components important to license renewal; selection of structures and components requiring effective programs to manage age-related degradation unique to license renewal; and descriptions of effective programs to adequately manage age-related degradation unique to license renewal and the bases for the programs.

Alternative B, which is the selected approach, has undergone limited changes as it evolved from the proposed rule to the final rule, as discussed elsewhere in this document. These changes have been evaluated for their effect on risk reduction and cost estimates in the regulatory analysis, particularly with regard to differences in documentation of the current licensing basis and the scope of SSCs requiring programs to manage age-related degradation unique to license renewal, but including other refinements as well. Risk-reduction estimates were not appreciably affected. The estimate of total costs increased slightly, but not enough to change the conclusion regarding the cost-effectiveness of Alternative B relative to the other alternatives.

Alternative B would provide a formal and consistent structure to the licensee's efforts to assess and manage aging unique to license renewal during the renewal term. The results of licensee assessments also would provide information for an NRC finding of whether or not the renewal term requested by the licensee is justified.

As compared with Alternative A, Alternative B offers the benefit of a more intensive and systematic program to manage the effects of aging risks. However, it foregoes Alternatives C and D's new-plant safety enhancements. Alternative B would involve greater renewal expenditures than Alternative A, but less than Alternatives C and D.

Alternative C

Extension of Alternative B to require assessment of design differences against selected new-plant standards.

The selection of applicable new-plant standards would be based on potential risk importance and the practicality of overcoming obstacles to the modifications involved. Applicants would be required to demonstrate, through PRA-aided analyses, that their specific plants' differences from the selected new-plant standards are not risk-significant or that the plant and procedural changes are adequate. The objective of Alternative C would be to upgrade the safety of renewed-license plants above the degree of safety that had been deemed acceptable for the original license term by seeking to attain the improvements envisaged for new plants in the more promising and less difficult areas.

Alternative C seeks safety enhancements over Alternative B, but its renewal expenditures would be higher.

Alternative D

Extension of Alternative B to require compliance with all new-plant standards.

Some limited compromises would necessarily be involved, both in new-plant requirements that it may not be possible or practical to comply with and in the fact that much retained equipment would not be free of all aging effects. Without some tolerance for near-equivalents or specific exemptions, this alternative may assimilate to the no-renewal option.

The objective of this alternative would be to seek the closest possible safety equivalence of renewal-license plants with new plants, in recognition of the historic gradual tightening of safety requirements over the years and increasing evolution of more conservative, more risk-averse public attitudes towards safety objectives of technological enterprises, notably nuclear power plants.

Alternative D would be the most ambitious in its safety objectives and highest in renewal expenditures.

Conclusion

Alternative B was chosen as the preferred alternative. Its systematic aging management requirement, absent from Alternative A, is warranted by the importance of equipment aging as the key safety issue in nuclear plant life extension and license renewal and is well justified on a cost-benefit basis. The enhancement over Alternative B offered by the selective or full introduction of new-plant standards, as would be the case with Alternatives C and D, are neither necessary for adequate safety nor worthwhile on a cost-benefit basis.

Some commenters argued that, since older plants do not meet the current licensing standards, these plants should not be relicensed or that they should be required to meet some or all of the current licensing standards before relicensing. The Commission disagrees and the bases for the selection of Alternative B have been discussed above. In addition, the Commission's continuing regulatory oversight ensures that a plant's CLB will evolve as a result of ongoing regulatory initiatives and required backfits during the term of operation to incorporate new safety requirements, thereby continuing to ensure that an acceptable level of safety would exist at any time during operation under a renewed license. The CLB is also modified as necessary to ensure that operation will not be inimical to the common defense and security. The

required operation of the plant within the CLB and the Commission's continued regulatory oversight, together with the management of age-related degradation unique to license renewal, provide reasonable assurance that operation of a nuclear power plant during the period of extended operation will not be inimical to the public health and safety or common defense and security.

There were other comments about the analysis of consequences for Alternative B. Comments from the industry stated that the large risk reductions associated with the aging management activities are unrealistic. It was argued that even without the formal assessment and management of Alternative B, NRC and the licensees would recognize any significant increase in risk due to aging and take corrective actions. The Commission does not agree that it is adequate to wait to address aging concerns when they become apparent in plant operations. Analysis of risk due to aging indicates that core damage frequency can increase to relatively high levels before failures occur, so corrective action after a failure does not adequately control risk.

IX. Regulatory Flexibility Act Certification

As required by the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule does not have a significant impact on a substantial number of small entities. The final rule sets forth application procedures and technical requirements for renewed operating licenses for nuclear power plants. Nuclear power plant licensees do not fall within the definition of small businesses as defined in section 3 of the Small Business Act, 15 U.S.C. 632, the Small Business Size Standards of the Small Business Administrator (13 CFR part 121), or the Commission's Size Standards (50 FR 50241; December 9, 1985).

X. Non-Applicability of Backfit Rule

This rule addresses the procedural and technical requirements for obtaining a renewed operating license for nuclear power plants. The Commission has not previously addressed the policy, technical, and procedural issues relevant to renewal of nuclear power plant operating licenses either in rulemaking or in guidance documents. Accordingly, this rule does not constitute a "backfit" as defined in 10 CFR 50.109(a)(1) and a backfit analysis need not be prepared. Moreover, policy considerations weigh against consideration of 10 CFR part 54 as a "backfit." The primary impetus for the backfit rule was "regulatory stability," viz., that once the Commission decides to issue a license, the terms and conditions for operating under that license would not be arbitrarily changed *post hoc*. Regulatory stability is not a relevant issue with respect to 10 CFR part 54. This rule has only a prospective effect upon nuclear power plant licensees. There are no licensees currently holding renewed nuclear powerplant operating licenses who could be affected by this rule; consequently, there are no valid expectations that may be changed regarding the terms and conditions for obtaining a renewed operating license.

As the Commission expressed in the Preamble for 10 CFR part 52, which prospectively changed the requirements for receiving design certifications, the backfit rule:

> Was not intended to apply to every regulatory action which changes settled expectations. Clearly, the backfit rule would not apply to a rule which imposed more stringent requirements on all future applicants for construction permits, even though such a rule might arguably have an adverse impact on a person was considering applying for a permit but had not done so yet. In this latter case, the backfit rule protects the construction permit holder, but not the prospective applicant, or even the present applicant. See 54 FR 15385–86; April 18, 1989.

At the November 1989 license renewal workshop and in written comments, the industry asserted that a backfit analysis for part 54 rulemaking is desirable to ensure that the NRC engages in "disciplined decisionmaking" when determining what additional actions should be required by the rule to address age-related degradation. The Commission believes that the industry concerns in this regard have been addressed by preparation of a regulatory analysis, internal agency reviews of the rule by the Committee to Review Generic Requirements (CRGR), review of the rule and associated guidance documents by the Advisory Committee on Reactor Safeguards (ACRS), preparation of analyses required by the Paperwork Reduction Act, and the numerous opportunities for public comment provided by the NRC (e.g., public workshops, advance notices of proposed rulemaking).

In sum, for the reasons set forth above, the Commission has determined that a backfit analysis pursuant to 10 CFR 50.109 need not be prepared for the part 54 rule.

List of Subjects

10 CFR Part 2

Administrative practice and procedure, Antitrust, Byproduct material, Classified information, Environmental protection, Intergovernmental relations, Nuclear materials, Nuclear power plants and reactors, Penalties, Sex discrimination, Source material, Special nuclear material, Waste treatment and disposal.

10 CFR Part 50

Administrative practice and procedure, Antitrust, Backfitting, Classified information, Criminal penalty, Fire protection, Incorporation by reference, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

10 CFR Part 54

Administrative practice and procedure, Age-related degradation, Backfitting, Classified information, Criminal penalty, Environmental protection, Incorporation by reference, Nuclear power plants and reactors, Reporting and recordkeeping requirements.

10 CFR Part 140

Insurance, Nuclear power plants and reactors, Reporting and recordkeeping requirements.

For the reason set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 552 and 553, the Commission is adding a new part 54 to 10 CFR chapter I and is adopting the following amendments to 10 CFR parts 2, 50, and 140.

PART 2—RULES OF PRACTICE FOR DOMESTIC LICENSING PROCEEDINGS

1. The authority citation for part 2 continues to read as follows:

Authority: Secs. 161, 181, 68 Stat. 948, 953, as amended (42 U.S.C. 2201, 2231); sec. 191, as amended, Pub. L. 87–615, 76 Stat. 409 (42 U.S.C. 2241); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); 5 U.S.C. 552.

Section 2.101 also issued under secs. 53, 62, 63, 81, 103, 104, 105, 68 Stat. 930, 932, 933, 935, 936, 937, 938, as amended (42 U.S.C. 2073, 2092, 2093, 2111, 2133, 2134, 2135); sec. 114(f), Pub. L. 97–425, 96 Stat. 2213, as amended (42 U.S.C. 10134(f)); sec. 102, Pub. L. 91–190, 83 Stat. 853, as amended (42 U.S.C. 4332; sec. 301, 88 Stat. 1248 (42 U.S.C. 5871). Sections 2.102, 2.103, 2.104, 2.105, 2.721 also issued under secs. 102, 103, 104, 105, 183, 189, 68 Stat. 936, 937, 938, 954, 955, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2233, 2239). Section 2.105 also issued under Pub. L. 97–415, 96 Stat. 2073 (42 U.S.C. 2239). Section 2.200–2.206 also issued under secs. 186, 234, 68 Stat. 955, 83 Stat. 444, as amended (42 U.S.C. 2236, 2282); sec. 206, 88 Stat. 1246 (42 U.S.C. 5846). Section 2.600–2.606 also issued under sec. 102, Pub. L. 91–190, 83 Stat. 853, as amended (42

U.S.C. 4332). Section 2.700a, 2.719 also issued under 5 U.S.C. 554. Sections 2.754, 2.760, 2.770, 2.780 also issued under 5 U.S.C. 557. Section 2.764 and Table 1A of Appendix C also issued under secs. 135, 141, Pub. L. 97–425, 96 Stat. 2232, 2241 (42 U.S.C. 10155, 10161). Section 2.790 also issued under sec. 103, 68 Stat. 936, as amended (42 U.S.C. 2133) and 5 U.S.C. 552. Sections 2.800 and 2.808 also issued under 5 U.S.C. 553. Section 2.809 also issued under 5 U.S.C. 553 and sec. 29, Pub. L. 85–256, 71 Stat. 579, as amended (42 U.S.C. 2039). Subpart K also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239); sec. 134, Pub. L. 97–425, 96 Stat. 2230 (42 U.S.C. 10154). Subpart L also issued under sec. 189, 68 Stat. 955 (42 U.S.C. 2239). Appendix A also issued under sec. 6, Pub. L. 91–560, 84 Stat. 1473 (42 U.S.C. 2135). Appendix B also issued under sec. 10, Pub. L. 99–240, 99 Stat. 1842 (42 U.S.C. 2021b et seq.).

2. Section 2.4 is amended by revising the definitions of "license" and "licensee" to read as follows:

§ 2.4 Definitions.

* * * * *

License means a license, including a renewed license, or construction permit issued by the Commission.

Licensee means a person who is authorized to conduct activities under a license, including a renewed license, or construction permit issued by the Commission.

* * * * *

3. Section 2.109 is revised to read as follows:

§ 2.109 Effect of timely renewal application.

(a) Except for the renewal of an operating license for a nuclear power plant under 10 CFR 50.21(b) or 50.22, if, at least 30 days prior to the expiration of an existing license authorizing any activity of a continuing nature, the licensee files an application for a renewal or for a new license for the activity so authorized, the existing license will not be deemed to have expired until the application has been finally determined.

(b) If the licensee of a nuclear power plant licensed under 10 CFR 50.21(b) or 50.22 files a sufficient application for renewal of an operating license at least 5 years prior to the expiration of the existing license, the existing license will not be deemed to have expired until the application has been finally determined.

4. In § 2.758, paragraphs (a) and (b) are revised to read as follows:

§ 2.758 Consideration of Commission rules and regulations in adjudicatory procedures.

(a) Except as provided in paragraphs (b), (c), and (d) of this section, any rule or regulation of the Commission, or any provision thereof, issued in its program for the licensing of production and utilization facilities, source material, special nuclear material, or byproduct material is not subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding involving initial or renewal licensing subject to this subpart.

(b)(1) A party to an adjudicatory proceeding involving initial licensing subject to this subpart may petition that the application of a specified Commission rule or regulation or any provision thereof, of the type described in paragraph (a) of this section, be waived or an exception made for the particular proceeding. The sole ground for petition for waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or provision thereof) would not serve the purposes for which the rule or regulation was adopted. The petition must be accompanied by an affidavit that identifies the specific subject matter of the proceeding as to which the application of the rule or regulation (or provision thereof) would not serve the purposes for which the rule or regulation was adopted, and must set forth with particularity the special circumstances alleged to justify the waiver or exception requested. Any other party may file a response thereto, by counteraffidavit or otherwise.

(2) A party to an adjudicatory proceeding involving issuance of a renewed license under 10 CFR part 54 may petition that the requirements applicable to renewed licenses under this title should be waived or an exception made for the particular proceeding. The sole grounds for the petition must be one or both of the following:

(i) With respect to the subject matter of the particular proceeding, special circumstances pertaining to age-related degradation unique to license renewal (as defined in 10 CFR part 54) or environmental protection are such that the application of specific requirements of 10 CFR part 54 or 10 CFR part 51 in question would not serve the purposes for which the rule or regulation was adopted. The petition must be accompanied by an affidavit that identifies the specific section (or portion thereof) of either 10 CFR part 54 addressing age-related degradation or 10 CFR part 51 for which a waiver or exception is sought, the subject matter of the proceeding as to which the application of the identified requirement would not serve the purposes for which the rule or regulation was adopted, and must set forth with particularity the special circumstances alleged to justify the waiver or exception requested.

(ii) Because of circumstances unique to the requested term that result in:

(A) Operation that is inimical to the public health and safety or common defense and security or

(B) Noncompliance with the current licensing basis during the period of extended operation, requirements in addition to those in the plant's current licensing basis or otherwise needed for compliance with 10 CFR 54.29 must be imposed to provide compliance with the current licensing basis or to ensure that operation is not inimical to the public health and safety or common defense and security during the period of extended operation.

The petition must be accompanied by an affidavit that identifies the circumstances, explains how they will result either in operation that is inimical to public health and safety or common defense and security or noncompliance with the current licensing basis, describes what additional requirements must be imposed, and explains why the requirements are necessary for compliance with the current licensing basis or to ensure that operation will not be inimical to the public health and safety or common defense and security during the period of extended operation.

(3) Any other party may file a response to a petition submitted pursuant to paragraphs (b) (1) or (2) of this section by counteraffidavit or otherwise.

* * * * *

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

5. The authority citation for part 50 is revised to read as follows:

Authority: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat 1244, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95–601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 936, 955, as amended (42 U.S.C. 2131, 2235); sec. 102, Pub. L. 91–190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, 50.54 (dd), and 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138). Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235). Sections 50.33a, 50.55a and Appendix Q also issued under sec. 102, Pub. L. 91–190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42 U.S.C. 5844). Sections 50.58, 50.91, and 50.92 also

issued under Pub. L. 97–415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80–50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273), §§ 50.5, 50.46 (a) and (b), and 50.54(c) are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201 (b)); §§ 50.5, 50.7(a), 50.10 (a)–(c), 50.34 (a) and (e), 50.44(a)–(c), 50.46 (a) and (b), 50.47(b), 50.48(a), (c), (d), and (e), 50.49(a), 50.54(a), (i), (j)(1), (l)–(n), (p), (q), (t), (v), and (y), 50.55(f), 50.55a (a), (c)–(e), (g), and (h), 50.59(c), 50.60(a), 50.62(b), 50.64(b), 50.65, and 50.80 (a) and (b) are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 50.49 (d), (h), and (j), 50.54 (w), (z) (bb), (cc), and (dd), 50.55(e), 50.59(b), 50.61(b), 50.62(b), 50.70(a), 50.71 (a)–(c) and (e), 50.72(a), 50.73 (a) and (b), 50.74, 50.78, and 50.90 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

6. In § 50.47, paragraph (a)(1) is revised to read as follows:

§ 50.47 Emergency plans.

(a)(1) Except as provided in paragraph (d) of this section, no initial operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that there is reasonable assurance that adequate protection can and will be taken in the event of a radiological emergency. No finding under this section is necessary for issuance of a renewed nuclear power reactor operating license.

* * * * *

7. Section 50.51 is revised to read as follows:

§ 50.51 Duration of license, renewal.

Each license will be issued for a fixed period of time to be specified in the license but in no case to exceed 40 years from date of issuance. Where the operation of a facility is involved, the Commission will issue the license for the term requested by the applicant or for the estimated useful life of the facility if the Commission determines that the estimated useful life is less than the term requested. Where construction of a facility is involved, the Commission may specify in the construction permit the period for which the license will be issued if approved pursuant to § 50.56. Licenses may be renewed by the Commission upon the expiration of the period. Renewal of operating licenses for nuclear power plants is governed by 10 CFR part 54. Application for termination of license is to be made pursuant to § 50.82.

8. In § 50.82, paragraph (a) is revised to read as follows:

§ 50.82 Application for termination of license.

(a) Any licensee may apply to the Commission for authority to surrender a license voluntarily and to decommission the facility. Each application must be accompanied, or preceded, by a proposed decommissioning plan.

(1) After July 27, 1988:

(i) For a facility that permanently ceases operation, this application must be made within 2 years following permanent cessation of operations, but no less than 1 year prior to expiration of the operating license.

(ii) For a nuclear power plant that has not permanently ceased operation and for which a timely and sufficient application for a renewed license under 10 CFR part 54 has been docketed, a licensee may postpone filing an application to decommission the facility for that period of time until a final determination of the renewal application has been made by the Commission. If the application for a renewed license is disapproved and (A) the operating license in effect is within 1 year of its expiration date or (B) the plant has been operating under the timely renewal provisions of 10 CFR 2.109(b), an application for termination of the operating license must be submitted within 1 year of the disapproval of the application for the renewed license.

(2) For a facility that has permanently ceased operation prior to July 27, 1988, requirements for contents of the decommissioning plan as specified in paragraphs (b) through (d) of this section may be modified with approval of the Commission to reflect the fact that the decommissioning process has been initiated previously.

* * * * *

9. Part 54 is added to read as follows:

PART 54—REQUIREMENTS FOR RENEWAL OF OPERATING LICENSES FOR NUCLEAR POWER PLANTS

General Provisions

Sec.

Authority: Secs. 102, 103, 104, 161, 181, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, 202, 206, 88 Stat. 1242, 1244, as amended (42 U.S.C. 5841, 5842). For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273), §§ 54.13, 54.33, 54.35, and 54.37 are issued under secs. 161b, 161i, or 161o, 68 Stat. 948, 949, or 950, as amended (42 U.S.C. 2201(b), 2201(i), or 2201(o)).

General Provisions

§ 54.1 Purpose and scope.

This part governs the issuance of renewed operating licenses for nuclear power plants licensed pursuant to sections 103 or 104b of the Atomic Energy Act of 1954, as amended (68 Stat. 919) and title II of the Energy Reorganization Act of 1974 (88 Stat. 1242).

§ 54.3 Definitions.

As used in this part,

Age-related degradation means a change in a system's, structure's, or component's performance or physical or chemical properties resulting in whole or part from one or more aging mechanisms. Examples of this type of change include changes in dimension, ductility, fatigue resistance, fracture toughness, mechanical strength, polymerization, viscosity, and dielectric strength.

Age-related degradation unique to license renewal is degradation—

(1) That occurs during the term of the current operating license but whose effects are different in character or magnitude after the term of the current operating license (the period of extended operation); or

(2) Whose effects were not explicitly identified and evaluated by the licensee for the period of extended operation and the evaluation found acceptable by the NRC; or

(3) That occurs only during the period of extended operation.

Aging mechanism are the physical or chemical processes that result in degradation. These mechanisms include but are not limited to fatigue, erosion, corrosion, erosion/corrosion, wear, thermal embrittlement, radiation embrittlement, microbiologically induced effects, creep, and shrinkage.

Current licensing basis (CLB) is the set of NRC requirements applicable to a specific plant and a licensee's written commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and in effect. The CLB includes the NRC regulations contained in 10 CFR parts 2, 19, 20, 21, 30, 40, 50, 51, 54, 55, 70, 72, 73, and 100 and appendices thereto; orders; license conditions; exemptions; and technical specifications. It also includes the plant-specific design basis information defined in 10 CFR 50.2 as documented in the most recent final safety analysis report (FSAR) as required by 10 CFR 50.71 and the licensee's commitments remaining in effect that were made in docketed licensing correspondence such as licensee responses to NRC bulletins, generic letters, and enforcement actions, as well as licensee commitments documented in NRC safety evaluations or licensee event reports.

Effective program (EP) is a documented program to manage age-related degradation unique to license renewal that ensures that a system, structure, or component important to license renewal will continue to perform its required function or will not prevent the performance of a required function during the period of extended operation.

Integrated plant assessment (IPA) is a licensee assessment that demonstrates that a nuclear power plant facility's systems, structures, and components important to license renewal have been identified and that age-related degradation unique to license renewal will be managed to ensure that the facility's licensing basis will be maintained during the renewal term.

Nuclear power plant means a nuclear power facility of a type described in 10 CFR 50.21(b) or 50.22.

Renewal term means the period of time that is the sum of the additional amount of time beyond the expiration of the operating license that is requested in the renewal application plus the remaining number of years on the operating license currently in effect.

Systems, structures, and components (SSCs) important to license renewal are:

(1) Safety-related SSCs, which are those relied upon to remain functional during and following design basis events (as defined in 10 CFR 50.49(b)(1)) to ensure:

(i) The integrity of the reactor coolant pressure boundary;

(ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or

(iii) The capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the 10 CFR part 100 guidelines.

(2) All non-safety-related SSCs whose failure could directly prevent satisfactory accomplishment of any of the required functions identified in paragraphs (1) (i), (ii), or (iii) of this definition.

(3) All SSCs relied on in safety analyses or plant evaluations to demonstrate compliance with the Commission's regulations for fire protection (10 CFR 50.48), environmental qualification (10 CFR 50.49), pressurized thermal shock (10 CFR 50.61), anticipated transients without scram (10 CFR 50.62), and station blackout (10 CFR 50.63).

(4) All SSCs subject to operability requirements contained in the facility technical specification limiting conditions for operation.

All other terms in this part have the same meanings as set out in 10 CFR 50.2 or section 11 of the Atomic Energy Act, as applicable.

§ 54.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 54.7 Written Communications.

All applications, correspondence, reports, and other written communications shall be filed in accordance with applicable portions of 10 CFR 50.4.

§ 54.9 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150–0155.

(b) The approved information collection requirements contained in this part appear in §§ 54.13, 54.17, 54.19, 54.21, 54.22, 54.23, 54.33, and 54.37.

§ 54.11 Public inspection of applications.

Applications and documents submitted to the Commission in connection with renewal applications may be made available for public inspection in accordance with the provisions of the regulations contained in 10 CFR part 2.

§ 54.13 Completeness and accuracy of information.

(a) Information provided to the Commission by an applicant for a renewed license or by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the applicant or the licensee must be complete and accurate in all material respects.

(b) Each applicant or licensee shall notify the Commission of information identified by the applicant or licensee as having for the regulated activity a significant implication for public health and safety or common defense and security. An applicant or licensee violates this paragraph only if the applicant or licensee fails to notify the Commission of information that the applicant or licensee has identified as having a significant implication for public health and safety or common defense and security. Notification must be provided to the Administrator of the appropriate Regional Office within 2 working days of identifying the information. This requirement is not applicable to information that is already required to be provided to the Commission by other reporting or updating requirements.

§ 54.15 Specific exemptions.

Exemptions from the requirements of this part may be granted by the Commission in accordance with 10 CFR 50.12.

§ 54.17 Filing of application.

(a) The filing of an application for a renewed license must be in accordance with subpart A of 10 CFR part 2 and 10 CFR 50.4 and 50.30.

(b) Any person who is a citizen, national, or agent of a foreign country, or any corporation, or other entity which the Commission knows or has reason to know is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government, is ineligible to apply for and obtain a renewed license.

(c) An application for a renewed license may not be submitted to the Commission earlier than 20 years before the expiration of the operating license currently in effect.

(d) An applicant may combine an application for a renewed license with applications for other kinds of licenses.

(e) An application may incorporate by reference information contained in previous applications for licenses or license amendments, statements, correspondence or reports filed with the Commission; provided that the references are clear and specific.

(f) If the application contains Restricted Data or other defense information, it must be prepared in such a manner that all Restricted Data and other defense information are separated from unclassified information, in accordance with 10 CFR 50.33(j).

(g) As part of its application and in any event prior to the receipt of Restricted Data or the issuance of a renewed license, the applicant shall agree in writing that it will not permit any individual to have access to Restricted Data until an investigation is made and reported to the Commission on the character, association, and loyalty of the individual and the Commission shall have determined that permitting such person to have access to Restricted Data will not endanger the common defense and security. The agreement of the applicant in this regard is part of the renewed license, whether so stated or not.

§ 54.19 Contents of application—general information.

(a) Each application must provide the information specified in 10 CFR 50.33 (a) through (e), (h), and (i). Alternatively, the application may incorporate by reference other documents that provide the information required by this section.

(b) Each application must include conforming changes to the standard indemnity agreement, 10 CFR 140.92, appendix B, to account for the expiration term of the proposed renewed license.

§ 54.21 Contents of application—technical information.

Each application must include a supplement to the final safety analysis report (FSAR) that presents the information required by this part. The FSAR supplement shall contain the following information:

(a) Integrated plant assessment (IPA). The IPA must:

(1) Identify and list the SSCs important to license renewal.

(2) From the list required by paragraph (a)(1) of this section, identify the structures and components (SCs) that contribute to the performance of a required function, or could, if they fail, prevent an SSC important to license renewal from performing its required function.

(3) For those SCs identified in paragraph (a)(2) of this section, identify the SCs that could have age-related degradation that is unique to license renewal.

(4) Describe and justify the methods used in paragraph (a)(1), (a)(2), and (a)(3) of this section. The description must include:

(i) The specific criteria for determining whether an SSC is important to license renewal;

(ii) The criteria for evaluating whether an SC is necessary for the performance of a required function; and

(iii) The technical criteria to be used in determining whether an SC is subject to age-related degradation unique to license renewal.

(5) For each SC identified in paragraph (a)(3) of this section, demonstrate that the age-related degradation unique to license renewal:

(i) Is addressed through an effective program, or

(ii) Need not be addressed in an effective program.

(6) Describe the applicable effective programs for each SC identified in paragraph (a)(5)(i) of this section, and demonstrate that these programs will be effective in maintaining the CLB during the period of extended operation. The evaluation of these programs shall include a review of the CLB as appropriate. Effective programs must:

(i) Ensure identification and mitigation of age-related degradation unique to license renewal for the SCs identified pursuant to paragraph (a)(3) of this section; and

(ii) Contain acceptance criteria against which the need for corrective action will be evaluated, and ensure that timely corrective action will be taken when these acceptance criteria are not met; and

(iii) Be implemented by the facility operating procedures and reviewed by the onsite review committee.

(b) CLB Changes. Identification and justification of any changes in the current licensing basis associated with age-related degradation unique to license renewal.

(c) Exemptions. A list of all plant-specific exemptions granted pursuant to 10 CFR 50.12 and reliefs granted pursuant to 10 CFR 50.55a. For those exemptions and reliefs that either were granted on the basis of an assumed service life or period of operation bounded by the original license term of the facility or otherwise related to SSCs subject to age-related degradation unique to license renewal, an evaluation that justifies the continuation of these exemptions and reliefs for the renewal term must be provided.

(d) Plant modifications. A description must be provided of any proposed modifications to the facility or its administrative control procedures necessary to ensure that age-related degradation unique to license renewal is adequately managed during the renewal term.

(e) CLB changes during NRC review of application. Each year following submittal of the license renewal application and at least 3 months before scheduled completion of the NRC review, an amendment to the renewal application must be submitted that identifies any change to the current licensing basis of the facility that materially affects the contents of the license renewal application, including the FSAR supplement.

§ 54.22 Contents of application—technical specifications.

Each application must include any technical specification changes or additions necessary to support operation during the renewal term as part of the renewal application. The technical justification for these changes or additions must be contained in the FSAR supplement submitted to support license renewal.

§ 54.23 Contents of application—environmental information.

Each application must include an environmental report that complies with the requirements of subpart A of 10 CFR part 51.

§ 54.25 Report of the Advisory Committee on Reactor Safeguards.

Each renewal application will be referred to the Advisory Committee on Reactor Safeguards for a review and report. Any report will be made part of the record of the application and made available to the public, except to the extent that security classification prevents disclosure.

§ 54.27 Hearings.

A notice of an opportunity for a hearing will be published in the **Federal Register**, in accordance with 10 CFR 2.105. In the absence of a request for a hearing filed within 30 days by a person whose interest may be affected, the Commission may issue a renewed operating license without a hearing, upon 30-day notice and publication once in the **Federal Register** of its intent to do so.

§ 54.29 Standards for issuance of a renewed license.

A renewed license may be issued by the Commission, up to the full term authorized by § 54.31, based on the following findings:

(a) Actions have been identified and have been or will be taken with respect to age-related degradation unique to license renewal of SSCs important to license renewal, such that there is reasonable assurance that the activities authorized by the renewed license will be conducted in accordance with the current licensing basis, and that any changes made to the plant's current licensing basis in order to comply with this paragraph are otherwise in accord with the Act and the Commission's regulations.

(b) Any applicable requirements of subpart A of 10 CFR part 51 have been satisfied.

(c) Any matters raised under § 2.758 have been addressed as required by that action.

§ 54.31 Issuance of a renewed license.

(a) A renewed license will be of the class for which the operating license currently in effect was issued.

(b) A renewed license will be issued for a fixed period of time, which is the sum of the additional amount of time beyond the expiration of the operating license (not to exceed 20 years) that is requested in a renewal application plus the remaining number of years on the operating license currently in effect. The total number of years for any renewal term may not exceed 40 years.

(c) A renewed license will become effective immediately upon its issuance, thereby superseding the operating license previously in effect. If a renewed license is subsequently set aside upon further administrative or judicial appeal, the operating license previously in effect will be reinstated unless its term has expired and the renewal application was not filed in a timely manner.

(d) A renewed license may be subsequently renewed upon expiration of the renewal term, in accordance with all applicable requirements.

§ 54.33 Continuation of current licensing basis and conditions of renewed license.

(a) Whether stated therein or not, each renewed license will contain and otherwise be subject to the conditions set forth in 10 CFR 50.54.

(b) Each renewed license will be issued in such form and contain such conditions and limitations, including technical specifications, as the Commission deems appropriate and necessary to address age-related degradation unique to license renewal, including such provisions with respect to any uncompleted items of plant modification and such limitations or conditions as the Commission believes are required to ensure that operation during the period of completion of such items will not endanger public health and safety. Other conditions and limitations, including technical specifications, that do not address age-related degradation unique to license renewal continue in effect for the renewed license.

(c) Each renewed license will include those conditions to protect the environment that were imposed pursuant to 10 CFR 50.36(b) and that are part of the current licensing basis for the facility at the time of issuance of the renewed license. These conditions may be supplemented or amended as necessary to protect the environment during the term of the renewed license and will be derived from information contained in the supplement to the environmental report submitted pursuant to 10 CFR part 51, as analyzed and evaluated in the NRC record of decision. The conditions will identify the obligations of the licensee in the environmental area, including, as appropriate, requirements for reporting and recordkeeping of environmental data and any conditions and monitoring requirements for the protection of the nonaquatic environment.

The licensee shall maintain the programs and procedures reviewed and approved by the staff that manage age-related degradation unique to license renewal. A licensee may make changes to previously approved programs and procedures referenced in the renewal application or FSAR without prior Commission approval if the changes are reviewed by the onsite review committee or equivalent and found not to decrease the effectiveness of the management of age-related degradation unique to license renewal of specific systems, structures, or components previously accepted. Chances that do not reduce the effectiveness of previously accepted programs or procedures must be documented in accordance with § 54.37. Proposed changes that decrease the effectiveness of programs or procedures for management of age-related degradation unique to license renewal must be submitted to the NRC and receive NRC approval before implementation.

(e) The licensing basis for the renewed license includes the current licensing basis, as defined in § 54.3(a); the inclusion in the licensing basis of matters such as licensee commitments does not change the legal statute of those matters unless specifically so ordered pursuant to paragraphs (b) or (c) of this section.

§ 54.35 Requirements during term of renewed license.

During the term of a renewed license, licensees shall continue to comply with all Commission regulations contained in 10 CFR parts 2, 19, 20, 21, 30, 40, 50, 51, 54, 55, 70, 72, 73, and 100 and appendices thereto that are applicable to holders of operating licenses.

§ 54.37 Additional records and recordkeeping requirements.

(a) The licensee shall retain in an auditable and retrievable form for the term of the renewed operating license all information and documentation required by, or otherwise necessary to document compliance with the provisions of, this part.

(b) The annual FSAR update required by 10 CFR 50.71(e) must include any SSCs newly identified as important to license renewal as a result of generic information, research, or other new information after the renewed license is issued. The update must also identify any SSCs deleted from the list of SSCs important to license renewal. This FSAR update must describe how the age-related degradation unique to license renewal of newly identified SSCs important to license renewal will be effectively managed during the period of extended operation. The update must also be accompanied by a justification for deleting any SSCs previously identified as important to license renewal.

(c) The licensee shall submit to the NRC at least annually a list of all changes made to programs for management of age-related degradation unique to license renewal that do not decrease the effectiveness of programs to which the licensee committed and a brief description, including a summary of the safety evaluation of each change. The licensee shall maintain written documentation that provides the basis for concluding that the change does not reduce the effectiveness of these programs.

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

10. The authority citation for part 140 continues to read in part as follows:

Authority: Secs. 161, 170, 68 Stat. 948, 71 Stat. 576, as amended (42 U.S.C. 2201, 2210) * * *.

11. Section 140.2(a)(1) is revised to read as follows:

§ 140.2 Scope.

(a) The regulations in this part apply:

(1) To each person who is an applicant for or holder of a license issued pursuant to 10 CFR parts 50 and 54 of this chapter to operate a nuclear reactor, and

* * * * *

12. Section 140.10 is revised to read as follows:

§ 140.10 Scope.

This subpart applies to applicants for and holders of licenses issued pursuant to 10 CFR parts 50 and 54 of this chapter authorizing operation of nuclear reactors, except licenses for the conduct of educational activities issued to, or applied for, by persons found by the Commission to be nonprofit educational institutions and except persons found by the Commission to be Federal agencies. This subpart also applies to persons licensed to possess and use plutonium in a plutonium processing and fuel fabrication plant.

Dated at Rockville, Maryland, this 6th day of December 1991.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

[FR Doc. 91-29628 Filed 12-12-91; 8:45 am]

BILLING CODE 7950-01-M

10 CFR Parts 20, 30, 31, 34, 39, 40 and 70

RIN 3150-AC91

Notification of Incidents

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule; Correction.

SUMMARY: This document corrects a final rule appearing in the **Federal Register** on August 16, 1991 (56 FR 40757), that revised the NRC's material licensee reporting requirements to ensure that significant occurrences at material licensee facilities are promptly reported. This action is necessary to correct minor printing errors and resolve an inconsistent reference to an appendix. This action will also add language which was inadvertently omitted from the supplementary information to the final rule and restore previously added language to § 39.77.

EFFECTIVE DATE: October 15, 1991.

FOR FURTHER INFORMATION CONTACT: Michael T. Lesar, Chief, Rules Review Section, Regulatory Publications Branch, Division of Freedom of Information and Publications Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone: 301-492-7758.

1. On page 40758, in the second sentence of the sixth full paragraph in the second column, the word "accurance" should read "assurance."

2. The final rule contained a Summary and Analysis of Public Comments. On page 40758, in the third column, the response to comment No. 5 has been revised to provide greater clarity.

5. *Comment:* * * *

Response: In developing the proposed rule, the NRC considered the idea of providing specific activity thresholds for each of the new reporting requirements. However, the NRC felt that thresholds for all of the new reporting requirements would be cumbersome and difficult to develop and use. Many of the licensed operations use mixtures of isotopes in different chemical forms that pose various safety hazards. Nevertheless, the NRC agrees that thresholds for some of the new reporting requirements would help to minimize reports of insignificant events. As a result, the NRC felt that a set of activity thresholds would be appropriate for determining what fires and explosions and contamination events are reportable. Therefore, the final rule has been revised to require NRC notification only for fires and explosions and contamination events involving licensed material in quantities that are greater than five times the lowest annual limit on intake specified in appendix B of §§ 20.1001-20.2401 of 10 CFR part 20.

3. On page 40764, in the third sentence of the second full paragraph, (seventh line from the bottom) in the third column, "the 20" should read "than 20."

4. On May 21, 1991 the Nuclear Regulatory Commission published in the **Federal Register** (56 FR 23363) a final rule revising 10 CFR part 20 et al. The final rule also made conforming amendments to § 39.77(b). On page 40768, the conforming amendments made on May 21, 1991 that added references to §§ 20.1001-20.2401 were not reflected in amendatory instruction 13 that amended § 39.77. To restore the omitted references to § 39.77, amendatory instruction 13 is set forth below. For the convenience of the user, the instruction will present the change as a revision of § 39.77(b) and the complete text of the paragraph is presented.

13. In § 39.77, paragraph (b) is revised to read as follows:

§ 39.77 Notifications of incidents and lost sources; abandonment procedures for irretrievable sources.

* * * * *

(b) The licensee shall notify the Commission of the theft or loss of radioactive materials, radiation overexposures, excessive levels and concentrations of radiation, and certain other accidents as required by §§ 20.402, 20.403, 20.405 and 30.50 or, for licensees implementing the provisions of §§ 20.1001-20.2201, §§ 20.2201-20.2202, § 20.2203 and § 30.50 of this chapter.

* * * * *

§ 70.50 [Corrected]

5. In the third line of § 70.50(c)(2), in the third column, on page 40769, the word "prepare" should read "submit."

Dated at Rockville, Maryland, this 9th day of December, 1991.

For the Nuclear Regulatory Commission.

Donnie H. Grimsley,

Director, Division of Freedom of Information and Publications Services, Office of Administration.

[FR Doc. 91-29820 Filed 12-12-91; 8:45 am]

BILLING CODE 7950-01-M

DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Parts 1 and 301

[T.D. 8378]

RIN 1545-A085

Extension of Time for Making Elections

AGENCY: Internal Revenue Service, Treasury.

ACTION: Final regulations.

SUMMARY: This document contains the final regulations under 26 CFR part 301 concerning the extension of time for making elections or applications for relief when that time is not expressly prescribed by statute. The change permits the Commissioner to grant taxpayers an extension of time for making these elections or applications under any subtitle of the Code other than subtitle E, governing Alcohol, Tobacco, and Certain Other Excise Taxes; subtitle G, governing the Joint Committee on Taxation; subtitle H, governing the Financing of Presidential Elections; and subtitle I, governing the Trust Fund Code.

DATES: These amendments are effective February 13, 1959.

FOR FURTHER INFORMATION CONTACT: Barbara B. Walker, 202-566-5985 (not a toll-free number).

SUPPLEMENTARY INFORMATION:

Background

Section 1.9100-1 of the Income Tax Regulations was originally adopted in 1959, 24 FR 1206 (February 17, 1959), and amended in 1970, 35 FR 17840 (November 20, 1970), under the authority of section 7805(a) of the Internal Revenue Code ("the Code"). Temporary regulations (T.D. 8342), relating to § 1.9100-1, were published in the **Federal Register** on April 5, 1991 (56 FR 14023). A notice of proposed rulemaking